

G-79-001
(E-110)

EFFECT OF ASPARTAME LOADING IN SUBJECTS WHO REPORT
SYMPTOMS OF CHINESE RESTAURANT SYNDROME
AFTER GLUTAMATE INGESTION

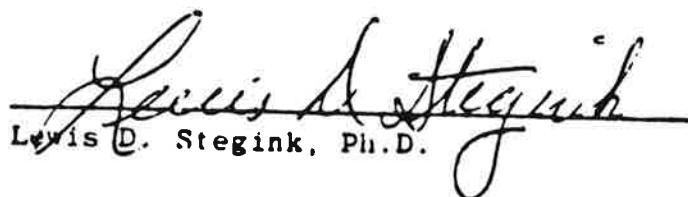
July 20, 1979

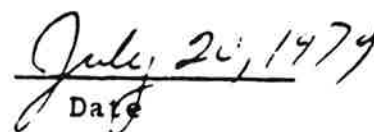
Report To:

G. D. Searle
Skokie, Illinois

From: Lewis D. Stegink, Ph.D.
L. J. Filer, Jr., M. D., Ph.D.
G. L. Baker, M.D.

The University of Iowa
College of Medicine
Iowa City, Iowa 52242


Lewis D. Stegink, Ph.D.


Date

Introduction

In specific individuals, the ingestion of large amounts of monosodium L-glutamate (MSG) has been associated with certain symptoms: headache, sweating, nausea, thirst, flushing of the face a sensation of burning or tightness. Since these symptoms were first associated with foods served in Chinese restaurants, the condition has been termed the Chinese Restaurant Syndrome (CRS).

The specific link of MSG with symptoms of CRS started in 1968 with the report of Kwok (1). These observations were expanded by Schaumburg and colleagues (2, 3) who reported that MSG produced symptoms of CRS when ingested by susceptible individuals on an empty stomach. They reported that all but one subject of those studied exhibited the characteristic symptoms if given a high enough dose of MSG in a low-protein, low fat meal. They concluded that subjects developing CRS had an oral dose threshold for MSG of 3 gm or less, while symptoms could be observed in most individuals at higher levels.

The incidence of subjects in the general population who experience symptoms of CRS after glutamate ingestion is not clear. Data presented in prior publications support an incidence rate ranging from 2 to 100 percent (1-17). This variation probably relates to differences in test methods, dose of MSG administered, study conditions, and the vehicle used to dissolve the MSG.

Recently, both the incidence and seriousness of the CRS have come into question. Several individuals claim to be acutely sensitive to the presence of added free MSG in the diet, while apparently not reacting to protein-bound glutamate (18-21). Unfortunately, these reports are in the form of letters-to-the-editor or oral testimony, and contain little data obtained under controlled conditions. Nonetheless, these reports have resulted in increased concern about the syndrome, and factors causing it.

Aspartame (L-aspartyl-L-phenylalanyl-methyl ester¹) is a dipeptide which is 180 to 200 times sweeter than sucrose. Because of its aspartate content, Olney (22, 23) and Reif-Lehrer (4, 5) have expressed concerns about the interactions of this peptide and MSG in food systems. Indeed, Reif-Lehrer (4) suggested that aspartame might elicit symptoms of CRS in sensitive subjects because of the structural similarity between glutamate and aspartate.

There are no data to support the hypothesis that aspartame will elicit symptoms of CRS in susceptible individuals. The data of Schaumburg et al. (3), shown in Table 1, indicate that 5 gm loads of monosodium aspartate fail to elicit symptoms. Thus, it seems highly unlikely that aspartame itself would elicit symptoms. Further, symptoms of CRS were not reported in the large number of subjects studied after receiving large doses of aspartame (Table 2). However, the incidence rate of subjects experiencing CRS symptoms in the general population is controversial, with some investigators reporting very low incidence rates. Thus, it is possible that no subjects susceptible to CRS were studied in our previous studies with aspartame (24, 30, 31).

The present study reports a direct test of Reif-Lehrer's hypothesis. Six subjects, who reported CRS symptoms after glutamate ingestion, were administered aspartame (34 mg/kg body weight) or sucrose (1 gm/kg body weight) dissolved in orange juice in a randomized, double blind, cross-over design. This group included one subject acutely sensitive to ingestion of MSG. Subjects were asked to record all symptoms noted. Plasma amino acid levels were measured to determine if these subjects cleared aspartame differently than the 12 "normal" subjects previously studied after aspartame administration at this level.

Materials & Methods

A total of 6 subjects, previously known to respond to MSG, were tested.

Each subject reported symptoms of CRS after ingesting 150 mg MSG/kg body weight in tomato juice, but did not respond to a placebo (tomato juice containing NaCl at 10 mg/kg body weight) when the solutions were administered in a double blind manner. Five of the subjects reported CRS symptoms after ingestion of soup providing MSG at 50 mg/kg, but did not respond to soup providing 0 or 25 mg MSG/kg. The one subject acutely sensitive to MSG reported severe symptoms after ingestion of soup providing 25 mg MSG/kg body weight, but did not respond to soup without added MSG.

The proposed study was fully explained to each subject and informed, written consent was obtained. The protocol of the study was reviewed and approved by the Committee on Research Involving Human Subjects of the University of Iowa.

The subjects were screened prior to entry into the study. This included a physical examination, complete blood count, urinalysis, a pregnancy test (female subjects), SMA 6/60 and SMA 12/60 tests (serum: total protein, albumin, calcium, inorganic phosphorus, cholesterol, glucose, urea nitrogen, uric acid, alkaline phosphatase, lactate dehydrogenase, total bilirubin, glutamate-oxaloacetate transaminase, sodium, potassium, chloride, carbon dioxide and creatinine) and fasting plasma amino acid analysis. All subjects had values within normal limits for the laboratory.

Each subject received both aspartame (34 mg/kg body weight) and sucrose (1 gm/kg body weight) in a cross-over design. Test doses were dissolved in 300 ml of cold orange juice and administered to fasting subjects at 0800 hours. The order of administration was randomized in a double blind manner. Test compounds were administered at least one week apart. Plasma amino acid levels were measured

at 0, 0.25, 0.5, 0.75, 1, 1.5, 2, 2.5, 3 and 4 hours after the test load. The subjects received nothing by mouth for 4 hours following the load, except water. Normal meals were allowed after 1200 hours.

Subjects were asked to record any symptoms noted after administration of the test compounds using the form listed in Table 3. All subjects were clearly acquainted with symptoms of CRS from earlier studies with MSG. Each subject was separated from other subjects during the study.

Heparinized blood samples for amino acid analysis were centrifuged immediately to separate plasma and erythrocytes. The plasma was deproteinized with sulfosalicylic acid as previously described (24), and either analyzed immediately or stored at -70° to prevent loss of glutamine and cystine (25, 26). Amino acid analyses were carried out on automated amino acid analyzers (Beckman 121 M, Beckman Instruments, Palo Alto, California).

Aspartame was obtained from Searle Laboratories (Skokie, Illinois) and sucrose from Mallinckrodt Chemical Company (St. Louis, Missouri).

Statistical analysis was the paired-t or Student's t test (27).

Results

No subject reported symptoms of CRS after ingestion of either sucrose or aspartame (Table 4). One subject reported slight nausea 1.5 hours after the aspartame dose but not after sucrose loading. However, he clearly indicated that this response differed from that noted after glutamate ingestion. In addition, the time of symptom onset (1.5 hours) is considerably later from times of onset for CRS symptoms after MSG ingestion (12 to 40 minutes) noted in our previous studies and those of other investigators.

Plasma aspartate levels in these subjects are shown in Table 5. Plasma aspartate levels were slightly higher after aspartame loading than after sucrose loads but the differences were not statistically significant. A small rise in

plasma glutamate levels was noted in all subjects following either aspartame or sucrose loading (table 6). However, this increase was not statistically different from 0 time values, and plasma levels remained within normal fasting levels for the laboratory.

The data in Table 7 compare plasma aspartate levels after aspartame loading in CRS sensitive subjects compared to those of 12 "normal" subjects studied previously (24). No significant differences were noted between groups.

Plasma phenylalanine and tyrosine levels are shown in table 8. Plasma phenylalanine levels decreased significantly ($p = 0.01$) from baseline levels 90 minutes after sucrose loading, and returned toward baseline 4 hours after loading. After the aspartame load, plasma phenylalanine levels increased significantly ($p = 0.001$) from fasting levels to the range seen postprandially in normal infants and adults fed protein meals (28, 29). Similarly, plasma tyrosine levels decreased slightly after sucrose loading, but increased slightly after aspartame loading, presumably reflecting conversion of phenylalanine to tyrosine. Plasma phenylalanine levels in CRS sensitive subjects were similar to those noted in 12 normal subjects studied earlier (24) at this aspartame dose (Table 9).

Plasma levels of alanine and proline increased significantly over zero time ($p = 0.01$) after both aspartame and sucrose loads (Tables 9 & 10). This effect is undoubtedly due to the orange juice base.

Plasma levels of the branched chain amino acids (leucine, isoleucine, and valine) decreased significantly after both aspartame and sucrose loading (Appendix-1). This decrease was similar to that noted in normal subjects administered either aspartame (34 mg/kg body weight) or aspartate (13 mg/kg body weight) dissolved in orange juice.

The individual clinical data from each subject are found in Appendix 2.

Discussion

These data demonstrate that subjects reporting CRS symptoms after ingestion of MSG do not report such symptoms after ingestion of aspartame (34 mg/kg body weight) or sucrose (1 gm/kg body weight). Similarly, no differences in plasma aspartate, glutamate or phenylalanine levels were noted between subjects reporting symptoms of CRS following MSG loading and 12 "normal" subjects studied earlier after aspartame ingestion (24). These data argue against the suggestion made by Reif-Lehrer (4) that aspartame might produce symptoms of CRS in sensitive subjects. Our data are consistent with the data of Schaumburg et al. (3) who showed that subjects, reporting CRS symptoms after MSG administration, did not report symptoms after a 5 gm load of monosodium aspartate, the part of aspartame postulated likely to produce symptoms by Reif-Lehrer (4).

The dose of aspartame studied is considerable. We have previously pointed out (24) that if aspartame ingestion replaced total sucrose sweetness in the average U.S. diet (17 percent of calories), aspartame ingestion would be 7 to 9 mg/kg/day. Further, if we assume sucrose intake as 50 percent of total calories, aspartame ingestion would be 23 to 25 mg/kg/day. In the present study, aspartame was administered at 34 mg/kg body weight, the dose estimated to be the 99.9th percentile of projected ingestion in a single dose. These data indicate that aspartame does not elicit CRS symptoms in sensitive individuals under the most excessive use conditions predicted.

The incidence of subjects experiencing symptoms of CRS after glutamate ingestion in the U.S. population is not clear. Estimates vary from 2 to nearly 100 percent. For example, Reif-Lehrer (5) surveyed a group of subjects using the questionnaire method, and reported an incidence rate of 25 to 30 percent. However, Kerr et al. (6, 7) questioned those results on the basis of leading questions in the questionnaire. They report an incidence rate of 2 to 3 percent using a less biased questionnaire. The data of Go et al. (8) also suggest a low incidence rate.

Data obtained from subjects administered glutamate directly are equal varied. Schaumburg et al. (3) reported that all but one of 55 subjects experienced one or more symptoms of CRS after oral ingestion of 6 gm MSG. Similarly, Ghadimi et al. (9) reported a positive CRS response in 13 of 14 given MSG at 150 mg/kg body weight. However, neither of these studies used double blind technique. Thus, experimental conditions were not totally suitable for assessing the relevance of subjective reactions. Double blind studies carried out in an attempt to assess such reactions using 3 or 5 gm loads of MSG were either unable to detect differences in symptoms between control and MSG-treated groups (10-12), or detected a high placebo effect as well as the glutamate effect (13). In addition, there are several reports of volunteers fed high doses of MSG without reports of symptoms (14, 15).

The most recent study by Kenney (17) indicates an incidence rate of 33 percent for men and 50 percent for women given a 5 gm load of MSG in 150 ml water.

Because of the large differences in reported incidence rates, aspartame effects were studied in subjects who were known to report CRS symptoms after glutamate ingestion. All of the subjects studied report symptoms after ingestion of 150 mg MSG/kg body weight dissolved in tomato juice, but do not report symptoms after placebo (NaCl). Subjects had also been pretested using soup providing MSG at 0, 25 and 50 mg/kg body weight, using a double blind, Latin Square Design. No subject reported symptoms after ingestion of soup without MSG. Five of the six subjects reported symptoms after ingesting soup providing MSG at 50 mg/kg body weight, but not after ingesting soup providing MSG at 25 mg/kg. The sixth subject reported symptoms after ingestion of soup providing MSG at 25 mg/kg.

Summary

CRS had not been noted in our previous studies with normal adults given high doses of aspartame (24, 30, 31). However, if the CRS incidence rate in the general population is 2 percent or less, such sensitive subjects might not have been studied. In the present study, 6 subjects known to report symptoms of CRS after ingestion of 25 and 50 mg MSG/kg body weight were administered aspartame at 34 mg/kg body weight, or sucrose at 1 gm/kg body weight dissolved in orange juice. Only one subject reported any symptoms after any dose. That individual reported slight nausea at approximately 1.5 hours after aspartame ingestion. This time is late for onset of CRS symptoms. The subject stated that the symptoms were not like the symptoms experienced after ingestion of MSG. The data indicate that large doses of aspartame do not produce symptoms of CRS in subjects who report such symptoms after MSG ingestion.

References

1. Iwok, R. H. M. Chinese Restaurant Syndrome. *New England J. Med.* 280, 1122 (1968).
2. Schaumburg, H. H. and Byck, P. Sin Cib-Syn: Accent on Glutamate. *New Eng. J. Med.* 279, 105-106 (1968).
3. Schaumburg, H. H., Byck, R.; Gerstl, R. and Mashman, J. H. Monosodium-L glutamate: Its pharmacology and role in the Chinese Restaurant Syndrome. *Science* 163, 826-828 (1969).
4. Reif-Lehrer, L. Possible significance of adverse reactions to glutamate in humans. *Fed. Proceed.* 35, 2205-2211 (1976).
5. Reif-Lehrer, L. A questionnaire study of the prevalence of Chinese Restaurant Syndrome. *Fed. Proceed.* 36, 1617-1623 (1977).
6. Kerr, G. R., Wu-Lee, M., El-Lozy, M., McGandy, R. and Stare, F. J. Objectivity of food-symptomatology questionnaires. *J. Am. Diet. Assoc.* 71, 263-268 (1977).
7. Kerr, G. R., Wu-Lee, M., El-Lozy, M., McGandy, R. and Stare, F. J. Food-Symptomatology questionnaires: Risks of demand-bias questions and population-biased surveys. IN: *Glutamic Acid: Advances in Biochemistry and Physiology*, edited by L. J. Filer, Jr., S. Garattini, M. R. Kare, W. Ann Reynolds, and R. J. Wurtman, Raven Press, New York, 1979, pp. 357-387.
8. Go, G., Nakamura, F. H., Rhoads, G. G. and Dickinson, L. E. Long-term health effects of dietary monosodium glutamate. *Hawaii Med. J.* 32, 13-17 (1973).
9. Ghadimi, H., Kumar, S. and Abaci, F. Studies on monosodium glutamate ingestion. I. Biochemical explanation of Chinese Restaurant Syndrome. *Biochem. Med.* 5, 447-456 (1971).
10. Rosenblum, I., Pradley, J. D. and Coulston, F. Single and double blind studies with oral monosodium glutamate in man. *Toxicol. Appl. Pharmacol.* 18, 367-373 (1971).

11. Morselli, P. L. and Garattini, S. Monosodium glutamate and the Chinese Restaurant Syndrome. *Nature* 227, 611-612 (1970).
12. Zanda, G., Franciosi, P., Tognoni, G., Rizzo, M., Standen, S. M., Morselli, P. L. and Garattini, S. A double blind study on the effect of monosodium glutamate in man. *Diomedicine* 19, 202-204 (1973).
13. Kenney, R. A. and Tidball, C. S. Human susceptibility to oral monosodium L-glutamate. *Am. J. Clin. Nutr.* 25, 140-146 (1974).
14. Bazzano, G., D'Elia, J. A. and Olson, R. E. Monosodium glutamate: Feeding of large amounts in man and gerbils. *Science* 169, 1208-1209 (1970).
15. Himwich, W. A., Petersen, I. M. and Graves, J. P. Ingested sodium glutamate and plasma levels of glutamic acid. *J. Appl. Physiol.* 7, 196-199 (1954).
16. Kenney, R. A. Effect of concurrent caloric intake on the response to oral monosodium L-glutamate in susceptible subjects. *J. Food. Sci.* 39, 414-415 (1974).
17. Kenney, R. A. Placebo-controlled studies of human reaction to oral monosodium L-glutamate. IN: *Glutamic Acid: Advances in Biochemistry and Physiology*, edited by L. J. Filer, Jr., S. Garattini, M. R. Kare, W. Ann Reynolds, and R. J. Wurtman, Raven Press, New York, 1979, pp. 363-373.
18. Reif-Lehrer, L. and Stemmermann, M. G. Monosodium glutamate intolerance in children. *New Eng. J. Med.* 293, 1204-1205 (1975). Letter.
19. Colman, A. D. Possible psychiatric reactions to monosodium glutamate. *New Eng. J. Med.* 299, 902 (1978) Letter.
20. Drossness, D. L. Testimony before the SCOGS Committee during hearings on "Evaluation of the health aspects of certain glutamates as food ingredients," Washington, D. C., July 25-26, 1977.
21. Sauber, W. J. Testimony before the SCOGS Committee during hearings on "Evaluation of the health aspects of certain glutamates as food ingredients," Washington, D. C., July 25-26, 1977.

22. Olney, J. W. L-Glutamic and L-aspartic acids--A question of hazard. *Food Cosmet. Toxicol* 13, 595-596 (1975).
23. Olney, J. W. Another view of aspartame. *IN: Sweeteners, Issues and Uncertainties, Academy Forum, National Academy of Sciences, Washington, D. C. pp. 189-195 (1975).*
24. Stegink, L. D., Filer, L. J., Jr. and Baker, G. L. Effect of aspartame and aspartate loading upon plasma and erythrocyte free amino acid levels in normal adult volunteers. *J. Nutr.* 107, 1837-1845 (1977).
25. Dickinson, J. C., Rosenblum, H. and Hamilton, P. B. Ion exchange chromatography of free amino acids in the plasma of the newborn infant. *Pediatrics* 36, 2-13 (1965).
26. Perry, T. L. and Hansen, S. Technical pitfalls leading to errors in the quantitation of plasma amino acids. *Clin. Chim. Acta* 25, 53-58 (1969).
27. Steel, R. G. and Torrie, J. H. *Principals and procedures of statistics.* McGraw-Hill, New York (1960).
28. Stegink, L. D., Schmitt, J. L., Meyer, P. D. and Kain, P. H. Effect of diets fortified with DL-methionine on urinary and plasma methionine levels. *J. Pediatrics* 79, 648-659 (1971).
29. Vaughan, D. A., Womack, M. and McClain, P. E. Plasma free amino acid levels in human subjects after meals containing lactalbumin, heated lactalbumin or no protein. *Am. J. Clin. Nutr.* 30, 1709-1712 (1977).
30. Stegink, L. D., Filer, L. J., Jr., Baker, G. L., Brummel, M. C. and Tephly, T. R. Aspartame metabolism in human subjects. *IN: Health and Sugar Substitute* B. Guyenheim, editor, Krager Publishers, Basel, 1978, pp. 160-165.
31. Stegink, L. D., Filer, L. J., Jr., Baker, G. L. and McDonnell, J. E. Aspartame metabolism in phenylketonuric heterozygotes. *Fed. Proceedings* 38, 708 (1979).

Table 1: Symptomatic response to loads of test substances. Data taken from Schaumborg et al. (3).

<u>Compound Tested</u>	<u>Load Given (gm)</u>	<u>Symptoms Reported</u>
Monosodium-L-glutamate	3	+
Monopotassium -L-glutamate	4	+
DL-glutamic acid	5	+
L-glutamic acid	5	+
Monosodium-D-glutamate	7	-
Monosodium-L-aspartate	5	-
NaCl	10	-
Glycine	5	-

Table 2: Symptoms reported in normal subjects administered large doses of aspartame in orange juice (24, 30, 31).

<u>Subjects</u>	<u>Aspartame Dose</u>	<u>N</u>	<u>CRS Symptoms</u>
Normal	34 mg/kg	12	0
PKU Heterozygotes*	34 mg/kg	8	0
Lactating women	50 mg/kg	6	0
Normal	100 mg/kg	6	0
PKU Heterozygotes	100 mg/kg	6	0
Normal	150 mg/kg	6	0
<u>Normal</u>	200 mg/kg	<u>6</u>	0
Total Subjects		50	

*Subjects known to be heterozygous for phenylketonuria

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____

DATE _____

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

Table 4: Response reported to loading doses of aspartame and sucrose

<u>Symptoms</u>	<u>Aspartame</u>	<u>Sucrose</u>
1. Abdominal cramps	0/6	0/6
2. Burning sensation	0/6	0/6
3. Chest pain	0/6	0/6
4. Diarrhea	0/6	0/6
5. Dizziness-light headed	0/6	0/6
6. Flushing sensation	0/6	0/6
7. Headache	0/6	0/6
8. Heartburn	0/6	0/6
9. Nausea	1/6	0/6
10. Numbness or loss of feeling	0/6	0/6
11. Palpitation	0/6	0/6
12. Unusual perspiration	0/6	0/6
13. Unusual thirst	0/6	0/6
14. Tight sensation in face, neck or chest	0/6	0/6
15. Tingling sensation	0/6	0/6
16. Weakness	0/6	0/6
17. Other	0/6	0/6

Table 5: Plasma aspartate levels (umoles/dl) after aspartame or sucrose loading in subjects sensitive to Chinese Restaurant Syndrome

SUBJECT	COMPOUND	TIME AFTER DOSE (MINUTES)										
		0	15	30	45	60	90	120	150	180	240	
C.R.	Sucrose	0.82	0.92	1.12	0.55	0.46	0.56	0.69	0.58	0.83	0.75	
K.C.	Sucrose	0.33	0.41	0.42	0.29	0.20	0.31	0.23	0.27	0.22	0.25	
DVR	Sucrose	0.58	0.22	0.43	0.15	0.18	0.30	0.25	0.12	0.36	0.29	
A.K.	Sucrose	0.88	----	0.64	0.74	0.91	1.40	0.22	0.65	0.62	----	
C.E.	Sucrose	0.30	0.37	0.44	0.49	0.55	0.64	0.56	0.37	0.43	0.47	
R.H.	Sucrose	0.44	1.20	1.41	1.48	0.91	0.81	0.76	0.92	1.03	1.13	
Mean		0.56	0.62	0.74	0.62	0.53	0.67	0.45	0.48	0.58	0.58	
S.D.		0.24	0.41	0.42	0.47	0.32	0.40	0.24	0.28	0.30	0.36	
C.R.	APM	0.62	2.60	0.64	0.38	0.84	0.18	0.91	0.84	1.30	1.23	
K.C.	APM	0.27	0.45	0.37	1.23	0.30	0.40	0.32	0.36	0.33	0.26	
DVR	APM	0.42	1.17	1.01	0.75	0.82	0.71	1.31	0.45	0.49	0.34	
A.K.	APM	0.73	0.40	0.55	0.49	0.46	0.40	0.75	0.82	0.72	0.38	
C.E.	APM	0.44	1.05	0.78	0.38	0.19	0.16	0.18	0.22	0.36	0.31	
R.H.	APM	0.40	0.51	0.36	0.36	0.69	----	0.34	0.20	0.27	0.20	
Mean		0.48	1.03	0.62	0.60	0.55	0.37	0.63	0.48	0.58	0.45	
S.D.		0.16	0.84	0.25	0.34	0.27	0.22	0.43	0.28	0.38	0.38	
t _i		1.55	1.31	0.52	0.06	-0.08	1.11	-0.79	0.02	0.01	0.47	
		$t_i = t_{\text{independent}}$										

Table 6: Plasma glutamate levels (umoles/dl) after aspartame or sucrose loading in subjects reporting symptoms of CRS.

<u>Time After Loading (Min.)</u>	<u>Sucrose</u>	<u>Aspartame</u>
0	4.65 \pm 1.58 ^a	4.59 \pm 0.70 ^a
15	4.86 \pm 1.84	6.57 \pm 1.01
30	5.45 \pm 1.87	6.07 \pm 1.50
45	5.27 \pm 1.37	6.12 \pm 1.49
60	5.58 \pm 2.05	5.72 \pm 1.73
90	5.56 \pm 1.43	4.26 \pm 1.07
120	5.41 \pm 1.90	3.86 \pm 1.42
150	3.81 \pm 0.95	3.56 \pm 0.84
180	3.43 \pm 0.98	3.64 \pm 0.96
240	3.63 \pm 0.50	3.03 \pm 0.41

^a Data expressed as mean \pm S.D.

Table 7: Plasma aspartate levels (umoles/dl) after aspartame administration in normal adults and subjects sensitive to CRS

TIME AFTER LOADING (MIN.)	NORMAL SUBJECTS n = 12	CRS SENSITIVE n = 6
0	0.30 \pm 0.08 ^a	0.48 \pm 0.16
15	0.25 \pm 0.11	1.03 \pm 0.83
30	0.31 \pm 0.08	0.62 \pm 0.25
45	0.31 \pm 0.15	0.60 \pm 0.34
60	0.33 \pm 0.18	0.55 \pm 0.27
90	0.30 \pm 0.14	0.37 \pm 0.22
120	0.31 \pm 0.06	0.63 \pm 0.43
150	-----	0.48 \pm 0.28
180	0.29 \pm 0.15	0.58 \pm 0.38
240	0.26 \pm 0.13	0.45 \pm 0.38

^aData expressed as mean \pm S.D.

Table 8: Plasma phenylalanine levels (umoles/dl) after aspartame or sucrose loading in subjects sensitive to Chinese Restaurant Syndrome

SUBJECT	COMPOUND	TIME AFTER ADMINISTRATION OF DOSE (MINUTES)									
		0	15	30	45	60	90	120	150	180	240
C.R.	Sucrose	5.20	5.21	5.47	4.00	4.09	4.07	4.52	4.15	4.75	4.72
K.C.	Sucrose	5.78	5.51	5.28	5.13	4.65	4.73	4.46	3.43	4.59	4.96
DVR	Sucrose	5.33	5.21	4.40	3.82	3.71	3.74	4.03	4.47	4.16	4.49
A.K.	Sucrose	4.89	-----	4.14	4.13	4.05	3.19	2.94	3.40	4.24	-----
C.E.	Sucrose	5.01	4.67	4.67	4.26	4.16	4.00	3.60	3.93	3.89	4.44
R.H.	Sucrose	4.68	5.83	5.79	5.84	4.31	3.49	3.61	3.73	3.70	4.29
Mean		5.15	5.29	4.96	4.53	4.16	3.87	3.86	3.85	4.22	4.58
S.D.		0.38	0.43	0.65	0.78	0.31	0.53	0.60	0.41	0.40	0.26
C.R.	APM	7.25	6.89	13.6	13.3	11.3	9.19	8.21	7.59	8.39	6.92
K.C.	APM	5.70	7.58	13.2	12.7	11.8	8.67	7.52	9.09	8.35	7.43
DVR	APM	5.45	14.5	17.2	11.9	10.7	9.65	8.16	7.14	5.91	5.60
A.K.	APM	5.13	6.92	9.07	8.60	9.11	7.92	7.29	5.72	6.66	5.45
C.E.	APM	5.50	10.1	12.5	11.5	11.2	7.83	4.79	7.20	6.62	7.10
R.H.	APM	4.92	10.1	12.4	10.1	10.7	-----	8.18	7.59	8.23	7.91
Mean		5.66	9.35	12.99	11.35	10.8	8.55	7.36	7.39	7.36	6.73
S.D.		0.82	2.92	2.61	1.73	0.92	0.79	1.31	1.03	1.09	0.99
		-1.68	-3.30	-7.50	-8.23	-19.64	-12.2	-6.84	-8.03	9.59	-5.97

12. Poppeblum, I., Bradley, J. D. and Coulston, F. Single and multiple dose studies with oral monosodium glutamate in man. *Toxicol. Appl. Pharmacol.* 18, 367-373 (1971).

0 9

Table 9: Plasma phenylalanine levels (umoles/dl) after aspartame administration in normal adults and subjects sensitive to CRS

TIME AFTER LOADING (MIN.)	NORMAL SUBJECTS n = 12	CRS SENSITIVE n = 6
0	5.66 \pm 1.21 ^a	5.66 \pm 0.82
15	8.83 \pm 2.21	9.35 \pm 2.92
30	11.1 \pm 2.49	12.9 \pm 2.61
45	11.1 \pm 4.01	11.3 \pm 1.73
60	10.5 \pm 1.74	10.8 \pm 0.92
90	9.54 \pm 1.84	8.65 \pm 0.79
120	8.80 \pm 1.85	7.35 \pm 1.31
150	-----	7.39 \pm 1.08
180	7.74 \pm 1.58	7.36 \pm 1.09
240	7.14 \pm 2.36	6.73 \pm 0.99

^aData expressed as mean \pm S.D.

Table 10: Plasma proline levels (umoles/dl) after aspartame or sucrose loading in subjects reporting symptoms of Chinese Restaurant Syndrome

<u>Time After Loading (minutes)</u>	<u>Sucrose</u>	<u>Aspartame</u>
0	25.7 \pm 9.32 ^a	25.9 \pm 9.76 ^a
15	30.5 \pm 10.0	26.3 \pm 9.46
30	31.6 \pm 11.3	27.6 \pm 8.37
45	31.1 \pm 8.83	27.9 \pm 7.98
60	27.9 \pm 7.24	27.2 \pm 6.22
90	28.2 \pm 6.47	25.1 \pm 7.26
120	26.6 \pm 7.50	23.1 \pm 6.64
150	26.7 \pm 7.74	25.3 \pm 7.94
180	26.8 \pm 7.30	24.4 \pm 9.42
240	27.0 \pm 7.63	22.6 \pm 7.67

^a Data expressed as mean \pm S.D.

Table 11: Plasma alanine levels (umoles/100 ml) after aspartame or sucrose loading in subjects reporting symptoms of Chinese Restaurant Syndrome

<u>Time After Load (Min.)</u>	<u>Sucrose</u>	<u>Aspartame</u>
0	31.3 \pm 6.47 ^a	30.4 \pm 6.11 ^a
15	38.2 \pm 7.77	32.3 \pm 7.69
30	45.7 \pm 8.08	43.8 \pm 7.83
45	46.7 \pm 8.44	46.9 \pm 8.45
60	44.3 \pm 7.79	43.2 \pm 4.57
90	41.3 \pm 5.06	35.3 \pm 2.30
120	41.5 \pm 5.44	35.5 \pm 7.62
150	40.1 \pm 6.07	35.5 \pm 6.40
180	41.3 \pm 6.52	34.6 \pm 9.52
240	37.2 \pm 6.58	32.6 \pm 8.83

^a Data expressed as mean \pm S.D.

AMINOGRAMS
AMINO ACID LEVELS UMOL/L/100ML

3138 THURSDAY, JULY 19, 1970

CBS STUDY

PLASMA AMINO ACID ISI AGAMINORUTYRATE

DIET=ASPARTAME DOSE=0 MG/KG

SUBJECT DATE WEIGHT
TIME

	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24	HR
312178	2.27	2.21	2.07	2.13	2.08	1.82	1.90	1.19	1.79	1.79	1.81	.	.	.	.	.	.	.
31770	2.69	2.76	3.20	1.73	3.46	4.51	3.09	1.39	4.38	4.38	3.75	.	.	.	.	.	.	.
31770	2.83	3.05	3.78	3.48	3.47	3.76	3.18	3.33	3.65	3.65	3.42	.	.	.	.	.	.	.
31770	0.95	0.52	0.74	0.59	0.63	0.28	0.18	0.58	0.11	0.11	0.69	.	.	.	.	.	.	.
31770	2.73	2.84	3.18	3.00	2.08	2.65	3.12	2.03	3.00	3.00	3.15	.	.	.	.	.	.	.
22178	2.41	2.77	2.92	2.38	1.63	.	1.24	2.19	1.82	1.82	1.53	.	.	.	.	.	.	.

15.4

3.33 3.66 4.18 3.53 3.68 4.19 3.27 3.80 3.89 3.73
1.787 2.884 2.823 2.534 2.982 2.583 2.868 2.340 2.322 2.338

DIET=SUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT
TIME

	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24	HR
313278	1.57	2.82	1.49	1.39	1.55	1.54	1.26	1.14	1.18	1.18	1.51	.	.	.	.	.	.	.
31378	3.61	2.82	2.43	2.65	1.83	1.70	1.92	1.52	1.50	1.50	1.72	.	.	.	.	.	.	.
31772	1.75	1.78	1.85	1.46	1.78	1.74	1.37	1.84	1.56	1.56	1.51	.	.	.	.	.	.	.
31772	1.59	1.31	1.24	1.34	1.15	0.63	1.06	1.84	1.24	1.24	1.13	.	.	.	.	.	.	.
31770	3.28	2.07	2.44	2.77	3.78	2.25	2.58	2.72	2.76	2.76	2.89	.	.	.	.	.	.	.
31178	1.83	2.25	2.25	2.34	1.57	1.38	1.43	1.38	1.39	1.39	1.47	.	.	.	.	.	.	.
15.4	2.24	2.28	1.93	1.98	1.92	1.68	1.57	1.47	1.47	1.47	1.60	.	.	.	.	.	.	.
0.953	0.675	0.525	0.525	0.676	0.902	0.442	0.449	0.641	0.419	0.419	0.331	.	.	.	.	.	.	.

026

AMINOGRAMS
AMINO ACID LEVELS UMOL/100ML

CFS STUDY

PLASMA AMINO ACID IS: ALANINE

DIET=ASPARTAME DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24	HR
A.M.	11278	.	.	28.50	27.13	25.40	30.80	32.80	32.20	30.70	27.20	29.10	25.30								
C.E.	31279	.	.	21.33	21.40	36.57	47.00	43.50	34.30	31.20	35.10	29.60	29.10								
C.E.	30370	.	.	30.00	39.52	43.20	38.43	36.70	34.50	34.50	32.30	36.50	30.30								
P.V.R.	31770	.	.	27.00	35.50	49.30	45.60	43.00	39.00	32.90	31.50	23.10	25.60								
K.C.	30770	.	.	38.00	29.20	42.20	50.50	46.50	35.60	33.20	30.50	39.30	36.00								
T.M.	22170	.	.	36.30	41.10	56.10	61.10	49.50	.	50.20	46.10	50.10	43.90								
M.E.	30.43			32.27	43.80	46.97	43.17	43.17	35.26	35.3	35.52	34.62	32.63								
SC	6.117			7.697	7.634	8.452	4.572	2.301	7.621	6.400	9.523	6.033									
N	0			0	0	0	0	0	0	0	0	0	0								

DIET=SUCROSE DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24	HR
A.M.	11370	.	.	20.00	40.40	49.40	40.50	54.10	42.20	42.00	44.30	40.60									
C.E.	31370	.	.	33.20	40.40	45.70	46.70	49.20	45.40	40.00	39.00	33.40	32.40								
C.E.	21770	.	.	25.00	30.00	35.00	36.10	35.30	37.10	39.20	32.90	30.00	32.00								
P.V.R.	31370	.	.	23.00	20.00	34.00	38.50	34.40	34.10	32.00	33.00	34.70	33.60								
K.C.	31770	.	.	30.00	45.50	52.50	40.00	45.00	47.70	49.50	44.90	46.00	39.10								
T.M.	30170	.	.	37.30	45.10	52.70	50.30	46.00	41.10	45.60	47.00	45.10	47.90								
M.E.	31.35			46.07	45.73	46.07	46.07	44.20	41.27	41.40	40.15	41.27	37.16								
SC	6.471			8.000	8.443	8.443	7.797	5.601	5.444	6.070	6.520	6.505									
N	0			0	0	0	0	0	0	0	0	0	0								

CNS STUDY

PLASMA AMINO ACID IS: ARGININE

DICTEASPARTAME DOSE=0 MG/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.K.	112170	6.03	6.40	6.91	6.44	6.48	5.62	5.98	5.89	5.74	4.68					
C.E.	31779	6.73	8.58	8.08	6.14	7.62	5.15	4.57	4.83	5.24	5.69					
C.R.	30379	7.43	4.02	6.94	7.33	5.93	5.50	5.33	5.90	6.85	7.89					
C.V.R.	31779	10.19	11.69	11.68	8.81	9.28	8.68	7.84	7.44	7.26	7.57					
K.C.	33779	9.13	7.85	8.29	5.22	6.23	5.58	5.63	6.34	6.61	6.01					
R.M.	22179	13.40	10.78	13.32	7.56	7.08		7.96	9.54	10.30	9.57					
MEAN		8.44	8.20	9.14	7.38	7.14	6.11	6.17	6.62	7.08	6.79					
SD		1.698	2.775	2.534	1.831	1.247	1.451	1.399	1.753	1.982	1.731					
N		6	6	6	6	6	5	6	6	6	6					

DICTEASUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.K.	112078	8.82	12.20	11.80	12.18	10.00	9.15	9.24	11.00	6.65						
C.C.	31379	9.68	8.49	7.41	7.78	6.53	6.07	6.11	6.15	9.38						
C.R.	21779	9.47	9.63	12.92	7.98	8.45	8.97	6.78	5.46	9.38						
C.V.R.	31379	7.99	7.67	7.16	6.04	5.77	5.42	5.08	5.74	6.53						
K.C.	31779	8.28	9.46	7.08	7.52	3.42	2.34	5.03	2.15	6.75						
R.M.	32179	6.65	8.94	9.32	9.35	6.91	6.49	6.72	7.68	7.97						
MEAN		9.02	9.80	9.29	8.34	7.40	6.32	7.17	7.18	7.46						
SD		0.609	0.843	1.049	2.031	2.900	2.751	1.759	3.351	1.222						
N		6	6	6	6	6	6	6	6	5						

ANIMOGRAMS

AMINO ACID LEVELS UMOL/L/100ML

3138 THURSDAY, JULY 19, 1979

027

AMINO ACID LEVELS UNUSUAL/ABNORMAL
SACCHARINATE

3138 TUNUSIAT, JULY 12, 1912

३८०

SUBCUTANEOUS

CITY OF SPAIN 005E00 PG/KC

SUBJECT	DATE	WEIGHT	TIME
1	10/10/50	100	10:00
2	10/10/50	100	10:00
3	10/10/50	100	10:00
4	10/10/50	100	10:00
5	10/10/50	100	10:00
6	10/10/50	100	10:00
7	10/10/50	100	10:00
8	10/10/50	100	10:00
9	10/10/50	100	10:00
10	10/10/50	100	10:00
11	10/10/50	100	10:00
12	10/10/50	100	10:00
13	10/10/50	100	10:00
14	10/10/50	100	10:00
15	10/10/50	100	10:00
16	10/10/50	100	10:00
17	10/10/50	100	10:00
18	10/10/50	100	10:00
19	10/10/50	100	10:00
20	10/10/50	100	10:00
21	10/10/50	100	10:00
22	10/10/50	100	10:00
23	10/10/50	100	10:00
24	10/10/50	100	10:00
25	10/10/50	100	10:00
26	10/10/50	100	10:00
27	10/10/50	100	10:00
28	10/10/50	100	10:00
29	10/10/50	100	10:00
30	10/10/50	100	10:00
31	10/10/50	100	10:00
32	10/10/50	100	10:00
33	10/10/50	100	10:00
34	10/10/50	100	10:00
35	10/10/50	100	10:00
36	10/10/50	100	10:00
37	10/10/50	100	10:00
38	10/10/50	100	10:00
39	10/10/50	100	10:00
40	10/10/50	100	10:00
41	10/10/50	100	10:00
42	10/10/50	100	10:00
43	10/10/50	100	10:00
44	10/10/50	100	10:00
45	10/10/50	100	10:00
46	10/10/50	100	10:00
47	10/10/50	100	10:00
48	10/10/50	100	10:00
49	10/10/50	100	10:00
50	10/10/50	100	10:00
51	10/10/50	100	10:00
52	10/10/50	100	10:00
53	10/10/50	100	10:00
54	10/10/50	100	10:00
55	10/10/50	100	10:00
56	10/10/50	100	10:00
57	10/10/50	100	10:00
58	10/10/50	100	10:00
59	10/10/50	100	10:00
60	10/10/50	100	10:00
61	10/10/50	100	10:00
62	10/10/50	100	10:00
63	10/10/50	100	10:00
64	10/10/50	100	10:00
65	10/10/50	100	10:00
66	10/10/50	100	10:00
67	10/10/50	100	10:00
68	10/10/50	100	10:00
69	10/10/50	100	10:00
70	10/10/50	100	10:00
71	10/10/50	100	10:00
72	10/10/50	100	10:00
73	10/10/50	100	10:00
74	10/10/50	100	10:00
75	10/10/50	100	10:00
76	10/10/50	100	10:00
77	10/10/50	100	10:00
78	10/10/50	100	10:00
79	10/10/50	100	10:00
80	10/10/50	100	10:00
81	10/10/50	100	10:00
82	10/10/50	100	10:00
83	10/10/50	100	

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	7	8	12	24 MH
112178	4.51	3.20	3.93	3.70	3.50	3.69	3.57	3.68	3.89	3.41					
11770	3.50	3.24	4.49	4.10	3.80	4.01	4.03	3.72	3.83	4.65					
11779	3.97	7.08	6.73	7.41	5.90	5.25	5.42	5.57	5.03	6.78					
11770	3.63	6.06	7.08	6.59	6.75	5.97	5.72	5.62	4.57	4.70					
11779	3.23	2.02	3.74	3.14	3.61	3.09	2.72	6.75	7.65	3.59					
22170	3.79	3.79	2.42	1.62	3.17		1.58	3.53	1.63	1.12					
1141	4.52	4.54	3.87	4.35	5.48	4.32	3.89	4.46	4.93	4.31					
1150	2.417	1.941	2.613	2.804	1.782	1.231	1.552	1.578	2.127	2.020					
1151	6	6	6	6	6	3	6	6	6	6					

00000000000000000000

SUBJECT	DATE	WEIGHT	TIME
1	10/10/50	100	10:00
2	10/10/50	100	10:00
3	10/10/50	100	10:00
4	10/10/50	100	10:00
5	10/10/50	100	10:00
6	10/10/50	100	10:00
7	10/10/50	100	10:00
8	10/10/50	100	10:00
9	10/10/50	100	10:00
10	10/10/50	100	10:00
11	10/10/50	100	10:00
12	10/10/50	100	10:00
13	10/10/50	100	10:00
14	10/10/50	100	10:00
15	10/10/50	100	10:00
16	10/10/50	100	10:00
17	10/10/50	100	10:00
18	10/10/50	100	10:00
19	10/10/50	100	10:00
20	10/10/50	100	10:00
21	10/10/50	100	10:00
22	10/10/50	100	10:00
23	10/10/50	100	10:00
24	10/10/50	100	10:00
25	10/10/50	100	10:00
26	10/10/50	100	10:00
27	10/10/50	100	10:00
28	10/10/50	100	10:00
29	10/10/50	100	10:00
30	10/10/50	100	10:00
31	10/10/50	100	10:00
32	10/10/50	100	10:00
33	10/10/50	100	10:00
34	10/10/50	100	10:00
35	10/10/50	100	10:00
36	10/10/50	100	10:00
37	10/10/50	100	10:00
38	10/10/50	100	10:00
39	10/10/50	100	10:00
40	10/10/50	100	10:00
41	10/10/50	100	10:00
42	10/10/50	100	10:00
43	10/10/50	100	10:00
44	10/10/50	100	10:00
45	10/10/50	100	10:00
46	10/10/50	100	10:00
47	10/10/50	100	10:00
48	10/10/50	100	10:00
49	10/10/50	100	10:00
50	10/10/50	100	10:00
51	10/10/50	100	10:00
52	10/10/50	100	10:00
53	10/10/50	100	10:00
54	10/10/50	100	10:00
55	10/10/50	100	10:00
56	10/10/50	100	10:00
57	10/10/50	100	10:00
58	10/10/50	100	10:00
59	10/10/50	100	10:00
60	10/10/50	100	10:00
61	10/10/50	100	10:00
62	10/10/50	100	10:00
63	10/10/50	100	10:00
64	10/10/50	100	10:00
65	10/10/50	100	10:00
66	10/10/50	100	10:00
67	10/10/50	100	10:00
68	10/10/50	100	10:00
69	10/10/50	100	10:00
70	10/10/50	100	10:00
71	10/10/50	100	10:00
72	10/10/50	100	10:00
73	10/10/50	100	10:00
74	10/10/50	100	10:00
75	10/10/50	100	10:00
76	10/10/50	100	10:00
77	10/10/50	100	10:00
78	10/10/50	100	10:00
79	10/10/50	100	10:00
80	10/10/50	100	10:00
81	10/10/50	100	10:00
82	10/10/50	100	10:00
83	10/10/50	100	

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 hr
A.R.	11778	2.38	2.38	3.03	3.78	3.03	1.05	2.56	2.07							
C.C.	21179	5.37	4.08	4.39	4.44	3.45	4.31	4.21	3.65	3.75						
C.C.	21179	6.59	7.79	9.04	6.84	6.24	6.05	5.31	6.38	6.18						
O.V.B.	31179	4.07	4.40	3.92	3.94	3.58	4.09	3.64	4.55	4.36						
X.C.	31179	3.78	3.48	2.54	3.33	2.10	3.48	1.93	2.92	2.30						
R.M.	31179	4.65	5.45	5.99	5.92	4.27	3.73	3.82	4.73	4.95						
A.M		6.41	5.23	4.84	5.38	4.83	4.83	3.68	4.58	4.61						
SD		1.308	1.686	2.393	1.808	1.183	1.332	1.353	1.577	1.585						
N		6	5	6	6	6	6	6	6	5						

CRS STUDY

AMINOGRAMS
AMINO ACID LEVELS UMOL/L/ICMHL

3128 THURSDAY, JULY 10, 1970

PLASMA AMINO ACID IS: ASPARTATE

DIET-ASPARTAME DOSE=0 MG/KG

SUBJECT DATE WEIGHT
TIME

	0	15	30	45	60	90	120	150 MIN	3	4	6	7	8	12	24 HR
A.M.	112178	0.73	0.43	0.55	0.49	0.48	0.40	0.75	0.82	0.72	0.38				
C.E.	31770	3.44	1.85	0.78	0.38	0.10	0.16	0.18	0.22	0.38	0.31				
C.F.	31770	0.62	2.08	0.64	0.38	0.04	0.18	0.91	0.84	1.38	1.23				
D.V.M.	31770	0.42	1.17	1.01	0.75	0.82	0.71	1.31	0.45	0.49	0.34				
K.C.	31770	0.27	0.45	0.3	1.23	0.38	0.48	0.32	0.56	0.33	0.76				
L.W.	22179	0.40	0.51	0.16	0.56	0.00		0.34	0.22	0.27	0.23				
-EAM		0.48	1.83	0.62	0.60	0.55	0.37	0.63	0.48	0.58	0.45				
SD		0.168	0.835	0.250	0.342	0.275	0.222	0.433	0.265	0.388	0.305				
"		0	0	0	0	0	5	0	6	6	6				

DIET-SUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT
TIME

	0	15	30	45	60	90	120	150 MIN	3	4	6	7	8	12	24 HR
A.M.	113179	0.68	0.64	0.74	0.91	1.48	0.22	0.65	0.62	0.47					
C.E.	31379	0.30	0.44	0.49	0.55	0.54	0.56	0.37	0.43	0.75					
C.F.	31775	0.82	1.12	0.55	0.46	0.56	0.69	0.58	0.83	0.22					
D.V.M.	31379	0.58	0.22	0.15	0.18	0.38	0.25	0.12	0.36	0.22					
K.C.	31779	0.33	0.41	0.29	0.28	0.31	0.23	0.27	0.22	0.25					
L.W.	38179	0.44	1.28	1.48	0.91	0.81	0.76	0.02	1.83	1.13					
-EAM		0.56	0.62	0.82	0.53	0.67	0.45	0.48	0.58	0.58					
SD		0.247	0.416	0.478	0.324	0.408	0.248	0.289	0.388	0.366					
"		0	5	0	0	0	0	6	6	5					

CRC STUDY

AMINO ACID LEVELS UMCLES/100ML

3138 THURSDAY, JULY 10, 1970

035

PLASMA AMINO ACID IS: CITRULLINE

CITRAASPARTANE DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
112178	1.74	1.23	1.25	0.66	0.64	0.75	0.67	1.27	1.16	1.35						
31779	2.95	2.17	1.80	7.24	1.51	2.07	1.62	7.68	1.91	2.45						
31779	3.52	3.29	2.56	2.08	1.92	2.31	2.52	2.62	2.93	2.87						
31779	19.10	14.63	12.28	10.63	12.78	11.44	9.63	11.93	13.08	12.30						
31779	3.33	2.62	2.20	1.27	1.85	1.53	1.55	2.62	2.45	2.27						
22179	2.52	2.17	1.46	1.88	1.81		1.73	1.95	2.44	1.47						
5134	5.52	4.38	3.60	4.07	3.38	3.61	2.95	4.67	4.12	3.78						
5134	0.681	5.149	4.241	3.937	4.623	4.395	3.312	4.212	4.738	4.212						
5134	0	0	0	0	0	0	0	0	0	0						

DIET+SUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
112178	2.29	2.02	2.22	1.69	1.73	1.95	1.28	1.49	2.21	1.63						
31779	2.04	2.02	1.86	1.61	1.48	1.24	0.59	1.23	1.59	1.63						
31779	3.34	2.99	3.78	1.67	1.75	1.65	1.77	1.52	2.19	2.74						
31779	3.31	2.62	1.72	1.75	1.49	1.40	1.73	1.82	2.56	2.59						
31779	3.33	2.63	2.07	1.87	1.57	1.29	1.58	1.86	1.58	2.46						
32178	3.11	3.67	3.48	3.33	1.85	1.47	1.93	1.64	2.09	2.58						
5134	3.04	2.78	2.49	1.99	1.63	1.58	1.12	1.59	2.32	2.42						
5134	0.413	0.612	0.648	0.664	0.173	0.264	0.366	0.234	0.134	0.442						
5134	0	0	0	0	0	0	0	0	0	0						

CBS STUDY

AMINO ACID LEVELS UMOL/L/100ML

3138 THURSDAY, JULY 19, 1979

PLASMA AMINO ACID 191: GLUTAMATE

DICTASAPARAME DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.M.	112178	.	.	3.87	4.87	4.62	5.49	5.53	5.86	5.58	4.88	3.94	3.77	.	.	.	.	.	.
C.F.	31279	.	.	5.65	8.03	7.55	6.33	2.33	3.66	2.92	3.72	2.52	3.06	.	.	.	.	.	.
D.V.	31279	.	.	5.06	6.62	7.43	5.95	5.64	4.58	2.49	2.76	2.93	3.17	.	.	.	.	.	.
K.C.	32770	.	.	3.83	6.35	5.66	4.87	5.26	2.78	2.39	2.29	4.56	2.79	.	.	.	.	.	.
R.M.	32770	.	.	4.35	6.83	6.93	8.97	7.67	5.28	4.07	4.48	3.84	2.67	.	.	.	.	.	.
MEAN	22178	.	.	4.74	6.54	4.08	5.12	7.38	.	5.71	4.18	4.87	2.73	.	.	.	.	.	.
SD	4.59	6.57	6.77	6.12	5.72	4.26	1.95	3.56	3.64	3.83	3.56	3.64	3.83	.	.	.	.	.	.
CO	0.783	1.012	1.533	1.494	1.735	1.078	1.421	0.850	0.552	0.411	0.552	0.552	0.411	.	.	.	.	.	.

DICTASUCROSE DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.M.	112178	.	.	5.43	6.52	6.83	6.88	6.11	7.41	6.90	3.93	3.77	3.96	.	.	.	.	.	.
C.F.	31279	.	.	4.47	6.52	6.83	4.91	6.15	6.22	6.28	3.77	4.19	3.96	.	.	.	.	.	.
D.V.	31279	.	.	2.62	2.76	2.44	3.72	2.59	3.55	2.69	2.88	2.75	2.86	.	.	.	.	.	.
K.C.	31279	.	.	6.77	4.63	6.97	7.18	6.41	5.58	6.66	4.53	4.81	3.93	.	.	.	.	.	.
R.M.	38179	.	.	5.55	6.78	6.81	5.33	3.66	4.26	3.27	4.83	2.23	4.93	.	.	.	.	.	.
MEAN	38179	.	.	5.86	4.79	5.81	5.18	6.58	6.41	6.59	4.77	2.81	3.38	.	.	.	.	.	.
SD	4.65	4.26	5.45	5.27	5.58	5.56	5.41	3.31	3.43	3.43	3.31	3.43	3.63	.	.	.	.	.	.
CO	1.587	1.641	1.878	1.373	2.831	1.436	1.807	0.859	0.980	0.504	0.504	0.504	0.504	.	.	.	.	.	.

3138 THURSDAY, JULY 19, 1979

AMINOGRAMS
AMINO ACID LEVELS UMOL/L

CSA STUDY

PLASMA AMINO ACID ISI GLUTAMINE

DIET=ASPARTAME DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
I.F.	112170	35.38	28.28	33.58	33.08	34.38	31.88	32.88	29.88	32.38	23.58					
C.F.	31770	64.50	67.42	62.43	74.02	71.18	71.98	70.20	64.38	72.68	72.68					
C.F.	22170	61.28	60.72	61.90	57.02	53.68	54.42	51.98	56.28	68.30	53.88					
P.V.R.	31770	54.28	53.68	53.62	49.70	49.48	49.18	39.58	39.98	41.18	41.84					
K.C.	32770	65.10	62.38	66.28	63.68	78.68	71.18	71.68	63.78	66.78	63.58					
P.M.	22170	57.98	54.82	66.58	61.78	55.78	58.78	59.28	58.28	58.28	57.82					
MEAN		57.88	54.37	56.35	56.55	55.68	55.32	53.18	52.15	55.32	51.78					
S.D.		11.849	13.938	11.928	13.971	13.738	16.777	15.019	14.182	15.478	17.377					

DIET=SUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
I.F.	112270	44.48	44.18	43.58	43.58	43.88	48.68	44.68	43.18	47.98						
C.F.	31370	77.38	66.42	67.58	65.58	67.88	64.42	67.28	64.48	69.62	68.20					
C.F.	21770	65.68	65.22	68.82	55.78	53.88	51.90	53.48	48.88	56.30	52.62					
P.V.R.	31370	56.48	55.68	52.58	49.42	52.68	49.32	53.68	48.58	52.18	55.18					
K.C.	31770	63.78	68.58	55.82	57.48	55.68	54.88	57.68	53.68	61.18	58.58					
P.M.	32170	52.28	43.68	43.38	45.88	46.58	46.58	46.38	49.18	49.38	47.68					
MEAN		55.93	56.28	55.87	52.85	53.88	53.65	53.15	51.35	56.85	54.78					
S.D.		11.582	9.258	11.494	8.255	7.443	8.418	8.523	7.213	8.207	9.236					

032

GLYCINE ISOLIC ACID

033

DIETARY SUPPLEMENT DOSE IN MG/KG

SEJECT DATE	WEIGHT	TIME	0	15	32	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
11270	.		13.10	16.30	16.40	19.10	19.10	9.04	11.70	18.10	19.30	9.70	.	.	.	.	.	.
31750	.		26.30	18.10	16.10	21.50	16.80	18.70	17.50	22.30	18.40	21.00	.	.	.	.	.	.
31770	.		26.30	29.00	25.70	24.80	22.40	23.00	23.80	24.60	26.00	24.20	.	.	.	.	.	.
31790	.		23.50	22.00	21.10	19.20	19.60	21.50	18.00	18.30	18.60	18.60	.	.	.	.	.	.
31770	.		23.00	18.40	19.10	17.00	17.10	15.00	16.60	20.50	21.00	19.10	.	.	.	.	.	.
22170	.		19.50	17.00	17.10	21.00	14.00	.	17.00	17.50	21.30	22.10	.	.	.	.	.	.
31750	.		21.30	15.20	18.00	19.40	17.15	17.77	17.65	18.62	19.40	18.52	.	.	.	.	.	.
31750	.		5.35	6.10	4.00	4.00	4.20	5.51	3.86	4.62	5.30	4.70	.	.	.	.	.	.
31750	.		6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	.	.	.	.	.	.

CITIZENS - 00500 W-3

[illegible]

CPS STUDY

AMINO ACID LEVELS UMOL/L

3138 THURSDAY, JULY 19, 1979 18

PLASMA AMINO ACID ISI HISTIDINE

DIETASPARTAME DOSE=0 MC/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.P.	112178	7.64	6.38	6.28	6.02	6.18	5.51	5.06	5.77	6.43	5.05					
C.P.	31379	7.76	7.81	7.83	6.47	5.28	5.36	5.23	5.62	5.58	6.12					
C.P.	31379	6.91	6.76	7.55	7.77	7.82	7.34	6.86	7.44	6.97	7.70					
D.V.R.	31379	7.88	7.74	6.84	7.16	7.86	7.88	6.17	5.65	6.11	6.28					
A.C.	31379	12.28	8.53	7.59	8.59	8.64	7.63	7.88	8.54	8.85	7.58					
P.M.	22179	6.54	7.88	9.57	8.18	6.57		6.36	7.53	7.63	7.28					
MEAN		8.15	7.34	7.82	7.37	6.79	6.58	6.28	6.82	6.95	6.7-					
S.D.		1.254	0.861	1.082	1.011	1.117	1.068	0.969	1.174	1.382	0.912					
N		6	6	6	6	6	6	6	6	6	6					

DIET-SUCROSE DOSE=0 MC/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.P.	113278	7.42	8.02	8.02	8.13	8.02	7.81	6.44	7.19	6.17						
C.P.	31379	8.43	8.42	7.24	7.24	7.79	7.25	6.51	6.84	6.81	7.31					
C.P.	21379	7.97	8.28	9.04	7.42	7.84	7.63	8.33	7.39	8.61	7.96					
D.V.R.	31379	7.87	7.68	7.15	5.76	5.75	5.91	6.66	6.58	5.77	6.32					
A.C.	31379	8.55	8.26	7.77	7.52	7.87	6.65	6.93	5.58	7.85	7.84					
P.M.	31379	8.87	7.87	8.15	6.36	6.47	6.61	6.18	6.48	7.88	7.64					
MEAN		8.10	8.03	8.19	7.41	7.20	6.81	6.64	6.73	7.23	7.41					
S.D.		0.528	0.288	0.838	0.919	1.094	0.914	0.778	0.517	1.018	0.659					
N		6	5	6	6	6	6	6	6	6	5					

CAS STUDY

AMINOGRAMS
AMINO ACID LEVELS UMOL/L/100ML

3138 THURSDAY, JULY 19, 1979 11

035

PLASMA AMINO ACID 131 ISOLEUCINE

DIET-ASPARTAME DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.K.	112178	.		4.70	4.07	3.86	3.15	3.03	2.50	3.31	3.31	3.24	3.79	.	.	.	.	.	.
C.F.	31779	.		8.35	8.51	8.21	7.74	7.40	3.06	5.66	6.41	6.91	6.03	.	.	.	.	.	.
C.P.	30379	.		11.30	10.40	6.73	6.66	5.19	5.13	5.04	5.25	6.37	6.52	.	.	.	.	.	.
O.V.R.	31779	.		6.75	7.20	5.65	5.23	4.43	3.93	5.23	3.70	4.10	4.51	.	.	.	.	.	.
K.C.	30779	.		12.70	11.10	10.50	9.11	4.77	6.07	7.52	8.51	8.06	9.23	.	.	.	.	.	.
R.H.	22179	.		6.27	9.08	6.88	9.51	5.00	.	7.75	4.99	9.22	9.25	.	.	.	.	.	.
MEAN				8.46	9.56	6.96	6.92	4.90	4.48	5.75	5.36	6.45	6.99	.	.	.	.	.	.
S.D.				3.011	2.419	2.255	2.443	1.441	1.030	1.065	1.004	2.430	2.408	.	.	.	.	.	.
N				6	6	6	6	6	5	6	6	6	6	6	6	6	6	6	6

DIET-SUCROSE DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.K.	112178	.		3.68	6.63	3.44	3.29	3.10	1.51	2.75	2.63	3.04	5.90	.	.	.	.	.	.
C.F.	31379	.		9.40	8.65	5.86	4.43	3.90	3.06	3.04	3.78	5.31	5.98	.	.	.	.	.	.
C.P.	21779	.		6.40	5.97	6.31	4.23	4.21	4.16	4.18	3.89	4.55	4.97	.	.	.	.	.	.
O.V.R.	31379	.		5.21	6.24	4.03	3.39	2.97	2.73	2.65	2.96	3.75	4.09	.	.	.	.	.	.
K.C.	31779	.		10.60	4.90	9.47	8.78	7.65	6.20	6.19	6.73	5.46	7.54	.	.	.	.	.	.
R.H.	30179	.		9.11	8.01	6.78	8.76	7.60	4.82	6.11	4.52	4.42	5.07	.	.	.	.	.	.
MEAN				7.42	7.34	6.10	5.47	5.16	3.76	4.02	4.60	4.43	5.60	.	.	.	.	.	.
S.D.				2.722	1.330	2.480	2.593	2.025	1.680	1.776	1.427	0.931	1.124	.	.	.	.	.	.
N				6	5	6	6	6	6	6	6	6	5	6	6	6	6	6	6

CBS STUDY

AMINO ACID LEVELS UMOL/L/100ML

3130 THURSDAY, JULY 10, 1979 12

PLASMA AMINO ACID ISO LEUCINE

DIET-ASPARTAME DOSE=0 MC/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.C.	11.30	10.20	9.31	8.44	7.63	6.26	7.62	7.35	8.42	9.65	.	.	.	.	.	.
C.L.	14.50	14.20	13.43	12.23	10.80	9.11	9.00	11.40	11.53	12.70	.	.	.	.	.	.
C.V.	19.00	16.60	11.40	11.93	9.31	9.22	9.25	13.10	11.60	13.30	.	.	.	.	.	.
P.V.R.	14.20	13.40	11.53	9.46	8.42	7.24	7.90	7.28	7.78	8.73	.	.	.	.	.	.
F.C.	22.63	19.20	15.30	17.20	13.40	13.30	13.51	17.73	18.33	17.60	.	.	.	.	.	.
R.N.	14.00	14.00	13.90	15.20	10.40	.	11.10	10.00	14.00	14.40	.	.	.	.	.	.
MEAN	16.00	15.20	13.13	12.35	9.95	9.09	9.93	10.77	11.92	12.63	.	.	.	.	.	.
S.D.	4.200	3.371	3.434	3.450	2.060	2.094	2.327	3.014	3.265	3.350	.	.	.	.	.	.
N	6	6	6	6	6	5	6	6	6	6	.	.	.	.	.	.

DIET-SUCROSE DOSE=0 MC/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.C.	5.30	4.60	4.60	4.30	4.23	2.93	2.71	2.89	3.70	10.70	.	.	.	.	.	.
C.L.	15.20	13.60	11.20	9.75	9.92	7.19	7.11	7.03	9.16	10.30	.	.	.	.	.	.
C.V.	12.70	12.40	12.90	6.79	8.69	8.50	8.43	7.50	9.67	10.30	.	.	.	.	.	.
P.V.R.	10.20	10.00	8.16	6.75	5.89	5.47	5.44	6.40	7.52	9.34	.	.	.	.	.	.
F.C.	19.20	15.40	15.30	14.70	13.00	11.00	11.90	10.00	11.60	14.50	.	.	.	.	.	.
R.N.	15.30	17.30	17.30	17.10	13.60	9.63	10.10	9.12	9.11	10.00	.	.	.	.	.	.
MEAN	13.60	13.20	11.67	10.24	9.22	7.60	7.61	7.47	8.47	11.13	.	.	.	.	.	.
S.D.	4.740	2.602	4.720	4.913	3.740	3.130	3.274	2.630	2.647	1.971	.	.	.	.	.	.
N	6	5	6	6	6	6	6	6	6	5	.	.	.	.	.	.

036

CLINICAL STUDY

AMINO ACID LEVELS (UMOLS/100ML)

3:28 THURSDAY, JULY 17, 1973 13

FLASMA AMINO ACID ISI LYSINE

DIETARY PENTANE DOSE=0 MG/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	152 MIN	3	4	5	6	7	8	12	24 hr
A.M.	11270	16.70	14.70	13.93	12.93	13.60	12.30	14.60	13.93	15.83	14.60					
P.M.	31770	15.30	16.20	14.00	11.60	16.50	10.90	10.80	11.10	13.20	13.20					
C.E.	31770	16.40	16.40	12.93	13.00	11.60	12.50	12.50	13.60	15.30	14.40					
D.V.R.	31770	15.30	14.60	13.00	12.10	13.20	13.20	12.70	12.20	11.70	12.50					
P.C.	31770	21.70	23.00	13.10	15.00	17.00	16.60	17.00	21.00	20.00	19.00					
P.M.	22170	15.00	16.30	19.80	19.70	12.80		11.50	16.40	19.40	19.60					
P.M.	17.00	15.07	15.55	14.10	13.00	13.10	13.10	13.10	14.00	15.70	15.65					
S.D.	4.910	3.112	2.754	2.916	2.473	2.127	2.310	3.782	3.344	3.313						
W	0	0	0	0	0	5	6	6	6	6	0					

DIET-SUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 hr
A.M.	11270	17.50	16.20	15.40	14.20	15.50	14.40	14.40	17.00	20.20	16.40					
P.M.	31370	16.00	16.20	15.40	13.30	14.10	13.00	12.50	13.70	14.00	16.40					
C.E.	21770	17.00	13.10	20.20	14.00	15.00	15.60	17.00	16.10	19.00	17.30					
D.V.R.	31370	16.20	16.00	13.00	12.50	11.60	12.00	13.00	14.40	14.20	14.10					
P.C.	31770	19.10	17.90	16.10	15.00	14.40	13.40	14.30	13.10	15.10	16.70					
P.M.	33170	11.00	14.00	14.50	14.60	10.50	0.71	9.30	10.60	11.00	13.20					
P.M.	16.32	16.44	16.30	14.00	14.00	13.07	13.07	14.10	15.60	15.54						
S.D.	2.401	1.663	2.338	2.015	2.930	2.593	2.540	2.270	3.270	1.784						
W	0	5	0	0	0	6	6	6	6	6	0					

CNS STUDY

AMINOGRAMS
AMINO ACID LEVELS UNOLES/12HML

3938 THURSDAY, JULY 19, 1973 14

0320

PLASMA AMINO ACID IS: METHIONINE

PILITRAZAPRYTANE DOSE=0 MG/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 H2
A.P.	112178	2.34	1.74	1.77	1.82	2.13	1.40	2.35	1.65	2.01	1.85					
C.F.	31779	4.22	4.53	4.56	6.22	4.19	2.41	3.15	5.43	3.82	3.89					
C.V.	31779	5.53	6.53	4.82	3.90	2.73	3.49	2.78	3.93	4.06	4.68					
C.V.R.	31779	3.22	3.55	2.54	2.67	2.50	3.15	4.85	2.55	2.24	2.31					
P.C.	32779	5.41	4.73	5.60	5.14	3.65	4.20	4.84	4.55	4.43	5.10					
F.M.	22179	3.13	4.77	3.69	4.30	3.18		3.50	2.76	4.44	4.79					
MEAN		3.97	4.29	3.76	3.96	2.98	2.93	3.48	3.38	3.58	3.84					
SD		1.299	1.418	1.331	1.597	0.708	1.871	0.332	1.191	1.823	1.272					
N		6	6	6	6	6	5	5	6	6	6					

CITRUSUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 H2
A.P.	113378	2.43	2.78	2.78	2.55	2.37	1.68	2.23	2.39	2.25						
C.F.	31379	5.68	3.82	4.28	3.18	3.78	2.45	2.12	2.17	3.35						
C.V.	31379	3.33	3.98	4.28	3.52	3.81	3.87	3.13	2.52	3.32						
C.V.R.	31379	2.68	2.53	2.53	1.98	1.59	1.69	2.21	1.64	1.67						
P.C.	31779	5.56	5.18	5.18	5.27	3.72	3.77	3.62	4.92	3.49	3.75					
F.M.	32175	3.75	3.76	3.76	3.77	3.32	2.38	2.81	2.56	2.43	2.94					
MEAN		3.39	3.59	3.55	3.35	2.95	2.51	2.67	2.78	2.75	2.92					
SD		1.302	0.598	1.282	1.157	0.834	0.810	0.687	1.139	0.742	0.774					
N		6	5	6	6	6	6	6	6	6	5					

3038 THURSDAY, JULY 19, 1970 15

AMINOGRAMS
AMINO ACID LEVELS UMOL/100ML

CNS STUDY

FLASMA AMINO AC J ISI OMNITIME

DICTOASPARTAME DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.K.	11279	3.52	3.38	3.43	3.31	3.64	3.28	3.36	3.65	3.15	2.93					
C.S.	31779	4.51	4.55	4.47	3.32	2.64	2.58	2.58	2.67	3.32	2.97					
C.S.	31379	7.28	8.56	6.13	6.51	5.23	5.78	5.84	5.24	5.93	5.37					
D.V.R.	31779	5.42	5.74	5.26	4.62	4.44	5.14	5.89	4.29	3.98	4.81					
R.C.	30779	5.43	4.95	5.92	5.67	4.47	3.12	3.74	4.18	3.47	3.63					
T.M.	22179	4.12	4.36	4.32	4.50	4.34		4.22	4.49	4.28	4.81					
PLAN		4.08	5.26	4.92	4.55	4.08	4.10	4.28	4.38	4.82	3.82					
CO		1.319	1.792	1.031	1.197	0.868	1.386	0.981	0.842	1.042	0.897					
4																

NIET-SUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.K.	11379	4.78	4.36	4.53	4.53	4.74	3.80	3.82	3.97	4.55	4.72					
C.S.	31379	5.53	5.28	4.37	4.37	4.48	3.98	3.82	3.99	3.74	4.72					
C.S.	21779	6.31	6.39	5.15	5.15	5.19	5.25	5.53	5.48	5.57	4.88					
D.V.R.	31379	3.78	3.24	2.74	2.74	2.43	2.52	2.64	2.62	2.49	2.33					
R.C.	31779	4.91	4.18	3.82	3.82	6.47	3.65	3.51	3.22	3.44	4.88					
P.M.	30179	4.29	5.45	5.26	5.26	3.85	3.29	3.32	3.44	3.24	3.08					
PLAN		4.53	4.77	4.32	4.32	4.51	3.72	3.74	3.77	3.84	3.96					
CO		0.897	0.938	0.928	0.928	1.351	0.835	0.973	0.846	1.053	0.942					
W																

0330

AMINOGRAMS
AMINO ACID LEVELS UMOL/L/10PHL

3130 THURSDAY, JULY 12, 1970

CPS STUDY

PLASMA AMINO ACID IS: PHENYLALANINE

DIET-ASPARTAME DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HP
J.C.	112179	.		5.13	6.02	9.07	8.60	9.11	7.92	7.29	5.72	6.66	5.45	.	.	.	.	.	.
C.C.	31779	.		5.58	10.16	12.53	11.58	11.20	7.83	4.79	7.23	6.62	7.10	.	.	.	.	.	.
C.R.	30379	.		7.23	6.89	13.62	13.30	11.30	9.19	8.21	7.59	8.39	6.92	.	.	.	.	.	.
P.V.R.	31779	.		5.45	14.50	17.20	11.00	10.70	9.65	8.10	7.14	5.91	5.60	.	.	.	.	.	.
K.C.	30779	.		5.70	7.50	13.20	12.70	11.00	8.67	7.52	9.09	8.35	7.43	.	.	.	.	.	.
R.M.	22179	.		4.02	10.10	12.42	10.10	10.70	.	6.10	7.53	6.23	7.91	.	.	.	.	.	.
MEAN				5.65	7.35	12.94	11.35	10.80	8.65	7.36	7.39	7.30	6.73	.	.	.	.	.	.
SD				0.620	2.624	2.611	1.733	0.926	0.750	1.317	1.602	1.090	0.597	.	.	.	.	.	.
N				6	6	6	6	6	5	6	6	6	6	6	6	6	6	6	6

DIET-SUCROSE DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HP
J.K.	113778	.		4.89	.	4.14	4.13	4.05	3.10	2.94	3.40	4.24	4.44	.	.	.	.	.	.
C.E.	31379	.		5.31	4.67	4.67	4.26	4.16	4.00	3.60	3.93	3.80	4.72	.	.	.	.	.	.
C.R.	21779	.		5.20	5.21	5.47	4.00	4.09	4.07	4.52	4.15	4.75	4.49	.	.	.	.	.	.
P.V.R.	31379	.		5.33	5.21	4.40	3.02	3.71	3.74	4.33	4.47	4.16	4.49	.	.	.	.	.	.
K.C.	31779	.		5.70	5.31	5.20	5.13	4.65	4.73	4.40	3.43	4.50	4.50	.	.	.	.	.	.
R.M.	30179	.		4.68	5.63	5.79	5.04	4.31	3.49	3.61	3.73	3.70	4.20	.	.	.	.	.	.
MEAN				5.15	5.20	4.96	4.53	4.16	3.87	3.86	3.85	4.22	4.58	.	.	.	.	.	.
SD				0.305	0.420	0.631	0.707	0.311	0.533	0.630	0.416	0.400	0.263	.	.	.	.	.	.
N				6	5	6	6	6	6	6	6	6	5	6	6	6	6	6	6

040

3150 THURSDAY, JULY 19, 1979 17

AMINOGRAMS
AMINO ACID LEVELS UMOL/L/100ML

CBS STUDY

PLASMA AMINO ACID 191 PROLINE

DIET=ASPARTAME D05C=0 MC/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24	HR
A.K.	11279	.		13.00	14.78	19.50	18.50	19.40	16.92	16.50	13.70	12.22	11.70								
C.C.	31779	.		22.32	23.50	26.25	29.02	25.90	23.60	23.10	23.32	26.62	25.20								
C.R.	22779	.		42.00	43.40	43.50	45.90	37.40	36.60	35.22	31.52	39.10	34.52								
C.V.R.	31773	.		22.12	23.20	26.30	23.20	22.70	23.00	19.50	10.40	17.10	17.90								
P.C.	37779	.		29.02	25.42	26.52	31.60	29.70	25.30	25.52	27.42	29.42	24.10								
R.M.	22179	.		24.40	27.70	24.50	23.32	27.90	.	19.50	20.00	23.10	22.00								
PLAN	25.90	26.32	27.52	27.99	27.17	25.12	23.10	25.29	24.42	22.59											
30	5.770	9.257	8.375	7.970	6.222	7.260	6.644	7.260	9.410	7.672											
4	6	6	6	6	6	6	6	6	6	6											

DIET=SUCROSE D05C=0 MC/KG

SUBJECT	DATE	WEIGHT	TIME	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24	HR
A.K.	11279	.		19.70	33.52	24.02	24.10	26.20	30.00	22.40	20.52	22.60									
C.C.	31779	.		31.42	35.10	36.10	34.92	34.20	34.30	33.10	36.22	31.30	31.62								
C.R.	22779	.		39.52	42.30	47.50	39.00	31.10	34.40	35.00	31.40	36.20	33.72								
C.V.R.	31779	.		14.10	15.40	16.10	13.70	16.52	17.50	16.20	16.10	16.70	16.20								
P.C.	37779	.		21.60	20.60	27.52	28.40	23.90	24.20	24.00	24.30	23.20	21.60								
R.M.	30179	.		29.10	34.00	37.90	40.60	37.00	28.60	31.00	31.10	30.20	32.20								
PLAN	25.73	30.53	31.53	31.00	27.00	28.17	26.55	26.70	24.82	25.90											
30	9.325	10.010	11.310	8.637	7.243	6.474	7.522	7.746	7.533	7.033											
4	6	5	6	6	6	6	6	6	6	6											

041

CAS STUDY

AMINO ACID LEVELS UMOL/L/100ML

2130 THURSDAY, JULY 19, 1979 13

PLASMA AMINO ACID 131 SERINE

DIET-ASPARTAME DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME

0

15

30

45

60

90

120

150 MIN

3

4

5

6

7

8

12

24 HR

A.K.	112178	7.48	6.55	6.75	6.54	6.51	6.91	6.53	5.00	6.60	6.28	.	.	.	.	.	.
C.E.	31779	9.64	11.26	11.36	10.62	9.60	9.50	9.32	8.91	9.98	11.10	.	.	.	.	.	.
C.R.	32379	14.52	14.43	12.62	12.23	10.80	11.50	10.32	12.53	11.98	10.00	.	.	.	.	.	.
C.V.R.	31779	12.92	14.33	12.32	12.65	12.52	12.32	11.10	10.08	11.57	11.20	.	.	.	.	.	.
K.C.	32779	10.52	11.22	17.98	13.28	9.20	7.60	9.21	9.77	9.17	10.10	.	.	.	.	.	.
R.M.	22179	9.47	18.10	9.38	12.28	9.20	.	9.66	9.18	10.20	9.62	.	.	.	.	.	.

MEAN	10.75	11.20	10.07	11.12	9.60	9.34	9.1	9.19	9.96	9.90	9.90	.	.	.	.	.	.
SD	2.548	2.920	2.613	2.436	1.978	2.573	1.622	1.709	1.925	1.855	1.855	.	.	.	.	.	.
N	6	6	6	6	6	5	6	6	6	6	6	.	.	.	.	.	.

DIET-GLUCROSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME

0

15

30

45

60

90

120

150 MIN

3

4

5

6

7

8

12

24 HR

A.V.	11278	7.53	11.68	7.55	7.47	7.71	9.10	5.68	6.25	6.91	6.55	.	.	.	.	.	.
C.E.	31379	11.78	11.68	11.10	9.04	8.52	8.68	8.51	7.84	8.61	8.55	.	.	.	.	.	.
C.R.	31779	12.58	10.80	12.00	9.52	8.41	8.50	10.30	11.10	10.88	9.73	.	.	.	.	.	.
O.V.R.	31379	11.10	10.68	9.25	8.67	7.64	8.18	8.68	8.70	12.20	9.50	.	.	.	.	.	.
K.C.	31779	12.58	11.42	11.68	10.70	9.75	10.68	10.55	9.32	10.30	10.20	.	.	.	.	.	.
R.M.	32179	8.92	11.38	12.38	12.58	9.88	7.47	8.87	8.58	8.58	8.33	.	.	.	.	.	.

MEAN	9.97	11.10	10.67	9.80	8.71	8.92	8.61	8.64	9.27	9.46	9.46	.	.	.	.	.	.
SD	1.440	0.365	1.870	1.720	0.808	1.114	1.798	1.595	1.473	0.808	0.808	.	.	.	.	.	.
N	6	5	6	6	6	6	6	6	6	5	5	.	.	.	.	.	.

CNS STUDY

AMINO ACID LEVELS UMOLCS/100ML

3:30 THURSDAY, JULY 19, 1979 13

PLASMA AMINO ACID 151 TAURINE

CITRASPARTAME COSE-0 MC/KG

SUBJECT DATE WEIGHT

TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
F.M.	112178	5.81	4.98	5.43	5.78	5.66	5.11	6.41	5.26	3.12	4.99					
C.C.	21779	5.84	4.95	4.89	5.78	5.48	2.87	3.79	4.79	3.37	4.15					
C.B.	31376	2.64	2.43	4.91	4.30	3.72	3.72	3.24	3.48	4.34	4.48					
V.R.	31779	4.12	4.19	3.53	4.97	4.33	4.15	4.63	3.11	4.25	3.22					
M.C.	32779	5.25	3.92	3.49	4.55	3.57	3.83	3.92	5.02	4.88	3.64					
R.M.	22179	8.62	8.89	1.69	5.83	7.37		6.75	8.33	5.21	5.79					
PLAN		5.38	4.99	4.59	5.28	4.76	3.94	4.01	5.13	4.53	4.45					
SD		2.248	2.137	1.443	8.688	1.491	8.889	1.493	1.648	8.652	8.781					

CITRASPARTAME COSE-0 MC/KG

SUBJECT DATE WEIGHT

TIME

	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
F.M.	112178	1.64	4.74	9.52	10.98	11.68	9.67	8.73	15.83	13.16						
C.C.	21779	3.12	4.45	4.91	4.88	4.42	4.18	4.58	5.37	4.18	4.81					
C.B.	31376	4.1	3.25	3.06	3.36	4.52	4.47	5.26	6.55	8.15	4.48					
V.R.	31779	6.34	4.14	3.92	4.01	3.47	3.37	3.31	3.72	3.83						
M.C.	32779	5.31	5.48	9.58	6.58	5.13	8.28	4.58	5.33	4.88	4.68					
R.M.	22179															
PLAN		3.93	4.41	5.89	5.74	5.37	5.33	5.11	6.66	6.38	4.18					
SD		1.488	0.818	2.625	2.788	2.821	2.343	1.671	4.214	3.602	8.428					

CBS STUDY

PLASMA AMINO ACID IS: THALONINE

AMINOGRAMS
AMINO ACID LEVELS UNOLCS/100ML

3138 THURSDAY, JULY 19, 1979

044

DIETARY AMINO ACID DOSE: 0 MC/C
THERAPY: 15 30 45 1 00 00 120 150 MIN 3 4 5 6 7 8 12 24 H

TIME	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24 H
1. K.	11.178	8.53	7.56	7.20	7.36	7.46	6.78	7.64	6.30	7.35	6.68	.	.	.	.	.	.
2. E.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
3. A.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
4. V.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
5. C.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
6. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
7. N.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
8. S.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
9. D.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
10. T.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
11. P.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
12. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
13. N.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
14. S.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
15. D.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
16. T.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
17. P.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
18. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
19. N.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
20. S.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
21. D.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
22. T.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
23. P.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
24. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.

DIETARY AMINO ACID DOSE: 0 MC/KG

TIME	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24 H
1. K.	11.178	8.53	7.56	7.20	7.36	7.46	6.78	7.64	6.30	7.35	6.68	.	.	.	.	.	.
2. E.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
3. A.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
4. V.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
5. C.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
6. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
7. N.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
8. S.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
9. D.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
10. T.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
11. P.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
12. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
13. N.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
14. S.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
15. D.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
16. T.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
17. P.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
18. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
19. N.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
20. S.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
21. D.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
22. T.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
23. P.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.
24. M.	11.178	10.60	10.54	11.33	10.42	10.53	9.99	9.42	9.20	10.00	11.53	.	.	.	.	.	.

CBS STUDY

PLASMA AMINO ACID 181 TRYPTOPHAN

AMINOGRAMS
AMINO ACID LEVELS UMOL/L/100ML

3138 THURSDAY, JULY 19, 1975 21

045

CITRAUSPARTAME DOSE=0 MG/KG
SUBJECT DATE WEIGHT

TIME

0

15

30

45

60

90

120

150 MIN

3

4

5

6

7

8

12

24 HR

A.C.	11378	0.60	6.38	5.54	5.00	5.40	6.10	4.70	4.20	6.03	4.64								
C.C.	30379	9.40	9.94	6.29	6.16	5.75	6.40	4.05	5.02	4.98	4.14								
D.V.R.	31779	6.50	5.51	6.30	5.55	5.50	5.01	5.30	5.00	5.06	4.81								
R.M.	22170	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01								
MEAN		4.52	4.35	3.64	3.54	3.37	4.50	3.03	3.14	3.21	2.72								
SD		4.264	4.343	3.331	3.228	3.065	2.696	2.77	2.074	2.935	2.400								
N		5	5	5	5	5	4	5	5	5	5								

DIET=SUCCOSE DOSE=0 MG/KG

SUBJECT DATE WEIGHT

TIME

0

15

30

45

60

90

120

150 MIN

3

4

5

6

7

8

12

24 HR

A.C.	11378	3.06	2.66	2.67	2.40	1.06	1.94	2.76	3.72	0.01	0.01								
C.C.	31377	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01								
D.V.R.	31779	6.03	6.42	6.73	5.43	5.35	6.30	6.05	5.96	6.44	5.30								
R.M.	31770	5.25	4.64	4.64	5.59	5.56	3.92	3.80	4.16	3.99	4.00								
MEAN		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01								
SD		2.93	2.02	2.00	2.35	2.27	2.42	2.36	2.50	2.03	2.35								
N		5	4	5	5	5	5	5	5	5	4								

AMINOGRAMS
AMINO ACID LEVELS UMOL/L/100ML

3138 THURSDAY, JULY 19, 1972 21

047

—

NETROSYL ROSE NO MG/KG

SUBJECT	DATE	WEIGHT TIME	0	15	30	45	60	90	120	150	MIN	3	4	5	6	7	8	12	24 HR
C.F.	11370	.	21.00		22.20	19.07	21.00	16.60	15.60	17.40	:9.00			.	.	.	.	.	.
C.E.	31379	.	21.60	22.50	21.12	22.00	10.50	10.40	16.40	16.60	:7.32	17.40	.	.	.	.	.	.	.
C.B.	21779	.	21.70	20.30	21.60	17.00	10.70	17.20	17.20	15.10	:5.10	17.72	.	.	.	.	.	.	.
O.V.R.	31378	.	17.02	17.10	15.20	15.00	12.90	12.40	17.70	15.30	16.53	16.30	.	.	.	.	.	.	.
R.C.	31772	.	26.22	25.52	25.10	23.00	24.90	14.02	18.52	17.70	19.50	19.60	.	.	.	.	.	.	.
R.P.	30172	.	20.70	35.60	35.40	37.00	20.50	24.30	25.20	25.60	24.60	26.00	.	.	.	.	.	.	.
FIN			23.13	24.22	23.10	22.13	10.75	17.30	17.60	17.95	10.2'	19.50	.	.	.	.	.	.	.
M			4.175	7.070	6.817	7.006	5.232	3.890	4.208	4.323	2.001	4.216	.	.	.	.	.	.	.
			6	9	6	6	6	6	6	6	6	3	.	.	.	.	.	.	.

CRS STUDY

AMINO ACID LEVELS UMOL/100ML

3138 THURSDAY, JULY 10, 1978 24

PLASMA AMINO ACID 181 1/20CYSTINE

DIET-ASPARTAME DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.F.	11/21/78	•	5.72	5.28	5.14	5.12	5.40	4.64	5.56	4.00	4.94	4.07	•	•	•	•	•	•
C.F.	3/17/79	•	9.36	7.61	9.25	12.18	10.42	11.10	18.35	9.73	10.36	11.72	•	•	•	•	•	•
C.F.	3/23/79	•	9.62	11.72	15.23	14.62	14.16	14.92	13.10	13.90	14.62	13.60	•	•	•	•	•	•
O.V.R.	3/17/79	•	11.50	11.94	11.63	11.72	11.62	11.62	11.72	11.62	14.52	10.23	•	•	•	•	•	•
R.C.	3/27/79	•	5.47	5.17	9.63	12.02	10.52	10.40	9.35	8.58	8.04	8.93	•	•	•	•	•	•
R.M.	3/21/79	•	9.29	9.25	9.52	8.83	8.66	•	9.34	8.36	9.24	8.48	•	•	•	•	•	•
LEAN			8.53	8.65	10.19	10.27	10.11	10.53	9.78	9.31	9.70	9.52	•	•	•	•	•	•
SD			2.419	2.593	3.265	3.191	2.921	3.717	2.497	2.977	3.231	2.823	•	•	•	•	•	•
N			6	6	6	6	6	5	6	6	6	6	•	•	•	•	•	•

DIET-SUCROSE DOSE=0 MG/KG

SUBJECT	DATE	WEIGHT	0	15	30	45	60	90	120	150 MIN	3	4	5	6	7	8	12	24 HR
A.F.	11/21/78	•	10.68	10.72	10.62	10.78	11.67	11.60	12.08	10.38	10.58	•	•	•	•	•	•	•
C.F.	3/17/79	•	10.40	10.72	11.08	10.23	10.92	10.32	10.10	10.08	10.40	9.36	•	•	•	•	•	•
C.F.	3/23/79	•	13.48	12.90	13.68	13.29	11.10	11.58	11.22	9.17	10.98	9.85	•	•	•	•	•	•
O.V.R.	3/17/79	•	12.10	11.70	12.62	11.18	10.42	11.08	12.02	11.68	9.61	9.35	•	•	•	•	•	•
R.C.	3/17/79	•	8.27	8.93	9.72	9.55	8.61	8.56	8.82	8.40	8.12	7.99	•	•	•	•	•	•
R.M.	3/21/79	•	10.40	11.43	11.98	12.98	11.22	9.86	11.00	11.20	9.32	10.98	•	•	•	•	•	•
LEAN			10.86	11.33	11.47	11.27	10.63	10.47	10.73	10.11	9.84	9.53	•	•	•	•	•	•
SD			1.243	1.108	1.365	1.472	1.067	1.155	1.476	1.245	0.999	1.039	•	•	•	•	•	•
N			6	5	6	6	6	6	6	6	6	5	•	•	•	•	•	•

Project entitled "Aspartame Ingestion in Subjects Who React to MSG"

Dialogue With Human Volunteers

We wish to study subjects who have some reaction to the amino acid, glutamate, when given a test meal of the dipeptide aspartame. The control substance will be sucrose, given in an amount to produce a similar level of sweetness.

This is a cross-over type of experiment in which you go through the procedure twice. On one occasion you receive the beverage with sucrose (1 gm/kg), and on the other occasion you receive the beverage with aspartame (34 mg/kg).

The study will be carried out in the Pediatric Outpatient Clinic. You will be asked to report there at 0730 hours, having fasted from midnight. Prior to drinking the beverage, a 20 gauge needle will be placed in the forearm vein so as to allow repeated blood samples to be obtained without repeated venipuncture. Two or 3 cc of a dilute heparin solution will be instilled into the needle between the removal of blood samples to prevent clotting. Blood samples 5 ml in volume will be obtained at 0, 15, 30, 45, 60, 90, 120, 150, 180 and 240 minutes after drinking the beverage. Less than 3 ozs. of blood will be obtained over a period of 4 hours.

A brief medical history and physical examination will be carried out on each subject. Each participant will receive a urinalysis and a SMA 12/60, 6/60. All women will provide an a.m. urine specimen for pregnancy testing. Each participant will be asked to forego alcohol and other drugs for a period of 24 hours prior to testing.

Discomforts attendant to the project will be that of hunger, since food will be restricted for other than the test beverage to be provided at 0800 hours. The other discomfort is that associated with venipuncture, which should be limited to one such procedure. Confinement to the test area during the time of blood withdrawal and associated boredom will be a source of annoyance.

You are obviously free to withdraw from the project at any time without prejudice. Since the design of the project calls for establishing the response of each subject to two test meals, you will be paid \$100 at the completion of the total study. Since failure to complete the two parts of the study invalidates the use of any one subject, withdrawal prior to completion of the study design will result in only partial payment of the allocated fee (\$50 per study date).

There are no identifiable benefits to you; however, these studies will permit us to establish what influence if any the administration of a dipeptide has on the plasma aminogram when given in conjunction with a beverage.

I have discussed the above points with the subject or his legally authorized representative using a translator if necessary. It is my opinion that the subject understands the risks, benefits, and obligations involved in participation in this project.


Investigator

050

SCREENING HEALTH QUESTIONNAIRE (CLINICAL STUDIES -- NORMAL SUBJECTS)

Name A.K. Date _____
Sex F Birthdate 11-27-44

Place a check in front of each item if any relative has had the following:
Indicate relationship after each item using these code letters

Mother - M
Uncle - U

Father - F
Brother - B

Aunt - A
Sister - S

<input checked="" type="checkbox"/> Allergies	_____	<input checked="" type="checkbox"/> Tuberculosis	<u>U</u>
<input checked="" type="checkbox"/> Asthma or Hay Fever	_____	<input checked="" type="checkbox"/> Gout	_____
<input checked="" type="checkbox"/> Anemia	_____	<input checked="" type="checkbox"/> Heart Trouble	<u>F, M</u>
<input checked="" type="checkbox"/> Cancer or Tumor	<u>A</u>	<input checked="" type="checkbox"/> Stroke	_____
<input checked="" type="checkbox"/> Diabetes	_____	<input checked="" type="checkbox"/> High Blood Pressure	_____
<input checked="" type="checkbox"/> Bleeding Problem	_____	<input checked="" type="checkbox"/> Kidney Trouble	<u>M, S, A</u>
<input checked="" type="checkbox"/> Epilepsy (Convulsions)	_____	<input checked="" type="checkbox"/> Arthritis	_____
<input checked="" type="checkbox"/> Glaucoma	_____	<input checked="" type="checkbox"/> Ulcer	_____

Place a check in front of each item if you now have or have ever had any of the following:

<input checked="" type="checkbox"/> Diabetes	<input checked="" type="checkbox"/> Arthritis	<input checked="" type="checkbox"/> Yellow Jaundice
<input checked="" type="checkbox"/> Hives or Skin Rashes	<input checked="" type="checkbox"/> High Blood Pressure	<input checked="" type="checkbox"/> Malaria
<input checked="" type="checkbox"/> Chest Disease	<input checked="" type="checkbox"/> Gout	<input checked="" type="checkbox"/> Venereal Disease
<input checked="" type="checkbox"/> Eye Disease	<input checked="" type="checkbox"/> Asthma or Hay Fever	<input checked="" type="checkbox"/> Polio
<input checked="" type="checkbox"/> Liver Disease	<input checked="" type="checkbox"/> Pancreatitis	<input checked="" type="checkbox"/> Dental Problems
<input checked="" type="checkbox"/> Neuralgia or Neuritis	<input checked="" type="checkbox"/> Thyroid Disease	<input checked="" type="checkbox"/> Tuberculosis
<input checked="" type="checkbox"/> Any Serious Accidents	<input checked="" type="checkbox"/> Rheumatic Fever	<input checked="" type="checkbox"/> Kidney Trouble
<input checked="" type="checkbox"/> Any Surgery	<input checked="" type="checkbox"/> Scarlet Fever	<input checked="" type="checkbox"/> Cancer or Tumor
<input checked="" type="checkbox"/> Hospitalizations	<input checked="" type="checkbox"/> Pneumonia	<input checked="" type="checkbox"/> Stroke
<input checked="" type="checkbox"/> Heart Trouble	<input checked="" type="checkbox"/> Anemia	<input checked="" type="checkbox"/> Menstrual Disorders
<input checked="" type="checkbox"/> Mononucleosis		

List Any Other Illness _____

If you have checked any of the above spaces or listed any other illness, please record below:

Illness or Operation	Month and Yr.	Hospitalized	If yes, how long?
Hysterectomy + Cancer	Dec 74	Yes <input checked="" type="checkbox"/> No _____	_____ mos. _____ wks. 7 da
Surqny Above Also		Yes _____ No _____	_____ mos. _____ wks. _____ da
Appendectomy	Aug 58	Yes <input checked="" type="checkbox"/> No _____	_____ mos. 1 wks. _____ da
High Blood Pressure	Sept 73-74	Yes _____ No <input checked="" type="checkbox"/>	_____ mos. _____ wks. _____ da

SCREENING HEALTH QUESTIONNAIRE

CHECK THE APPROPRIATE SPACE FOR EACH OF THE FOLLOWING QUESTIONS:

Do you or have you ever had:

Yes	No	Yes	No
<input type="checkbox"/> Frequent Eye Infections	<input checked="" type="checkbox"/>	<input type="checkbox"/> Soaking Night Sweats	<input checked="" type="checkbox"/>
<input type="checkbox"/> Double Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Tightness in Your Chest	<input checked="" type="checkbox"/>
<input type="checkbox"/> Blurred Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Abnormal EKG (Electrocardiogram)	<input checked="" type="checkbox"/>
<input type="checkbox"/> Pain in the Eyes	<input checked="" type="checkbox"/>	<input type="checkbox"/> Fluttering of Heart	<input checked="" type="checkbox"/>
<input type="checkbox"/> Glaucoma	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent diarrhea	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cataracts	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Constipation	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Poor Vision	<input type="checkbox"/>	<input type="checkbox"/> Blood in Your Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Earaches	<input checked="" type="checkbox"/>	<input type="checkbox"/> Black or Tarry Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Ringing in Ears	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty in Swallowing	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Nosebleeds	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Heartburn or Indigestion	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Frequent Headaches	<input type="checkbox"/>	<input type="checkbox"/> Pain or Stiffness in Your Joints	<input checked="" type="checkbox"/>
<input type="checkbox"/> Shortness of Breath	<input checked="" type="checkbox"/>	<input type="checkbox"/> Pain or Burning on Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Difficulty in Lying Flat at Night	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty with Urinary Stream	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cough or Wheezing	<input checked="" type="checkbox"/>	<input type="checkbox"/> Increased Frequency of Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Fainting or Dizziness	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blood in Your Urine	<input checked="" type="checkbox"/>

SCREENING HEALTH QUESTIONNAIRE

Please answer the following:

Are you currently taking or have you taken within the last 4 months:

YES	NO
<input checked="" type="checkbox"/> Birth Control Pills	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Aspirin	<input checked="" type="checkbox"/>
<input type="checkbox"/> Antibiotics	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mineral Oil	<input checked="" type="checkbox"/>
<input type="checkbox"/> Tranquillizers	<input checked="" type="checkbox"/>
<input type="checkbox"/> Laxatives	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Vitam	<input checked="" type="checkbox"/>
<input type="checkbox"/> Sleeping Medicine	<input checked="" type="checkbox"/>
<input type="checkbox"/> Sulfas	<input checked="" type="checkbox"/>
<input type="checkbox"/> Thyroid Med	<input checked="" type="checkbox"/>
<input type="checkbox"/> Estrogens	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cold or Cough Medicines	<input checked="" type="checkbox"/>
<input type="checkbox"/> Anti-Coagulants	<input checked="" type="checkbox"/>
<input type="checkbox"/> Weight Control Medicines	<input checked="" type="checkbox"/>

If you checked "Yes" for any of the above medicines please list names, doses (if known) and duration of therapy.

Excedrin Dose 4-6 / daily Duration present
Vitamin B complex Dose 1 / day Duration _____
Vitamin E Dose 1 / day Duration _____
 _____ Dose _____ Duration _____

Please indicate approximate weekly intake for following:

Liquor 0 Drinks/Wk.
 Beer 1 Cans or Bottles/Wk.
 Wine 4 1/2 Glasses/Wk.
 Cigarettes 30 /Day

PHYSICAL EXAMINATION FORM

Investigator F. J. J. Study

Record all important positive and negative findings.

Date of Examination Race Caucasian

Name A.K. Age 34 Sex F Weight 110 lbs

Pulse 84 Respiration 16 Blood Pressure 120/80
120/80 mmHg

1. General Good
2. Skin Clear
3. Eyes pupils equal, reactive, no conjunctivitis
4. Ears TM's OK
5. Nose OK
6. Mouth OK
7. Throat OK
8. Neck OK
9. Chest and Lungs Clear
10. Heart Normal
11. Abdomen Soft, no masses, no tenderness
12. Genitalia Normal
13. Lymphatic OK
14. Vascular OK
15. Locomotion OK
16. Extremities OK
17. Neurological OK

Physician's Signature

DX. 161144
 DA CODE 1526
 TECH CODE 32 F102
 Location PC/001

☒ Routine
☐ Finish Today
☐ Emergency
☒ CBC
☒ DIFFERENTIAL
☐ PLATELET
☐ RETIC
☐ SED. RATE

3	7	4	TEST	Differential WBC	111102
			WBC	Neut Segs	
			RBC	Neut Bands	
			HGB	Neut. Metamyelocytes	
			HCT	Neut. Myelocytes	
			MCV	Monocytes	
			MCH	Eosinophils	
			MCHC	Basophils	
			Platelets	Lymphocytes	
			Reti	Monocytes	
			ESR	RBC Morphology	
				Normal	
				Hypochromia	
				Polychromasia	
				Poikilocytosis	
				Anisocytosis	
				Schistocytes	
				Target Cells	
				Basophilic Stippling	
				Howell-Jolly Bodies	
				Punctate RBC	

COMMENTS:

DATE 05-09-79

HOSP NO.

NAME A.K.

AGE 34

ADDRESS

CHARGE Q611 10

U OF I HOSPITALS AND CLINICS • DEPT. OF PATHOLOGY
 USE IMPRINTED STAMP (FILL IN) 7510 2608 R 11 77

• • • • •

1 A. Г: A.K.
27

DOB: 1/01/1945 SEX: M

15: 171
KILM: 465

. . . I_N_A_L_Y_S_I_S . . .

[illegible]

UNIVERSITY OF IOWA HOSPITALS AND CLINICS
END OF REPORT

050

155

1 A 1 : A.K.
13

WBC K/MP3	RBC MIL/MP3	HR G/DL	HCT %	PCV CH. MICR	CHC G/DL	CH PICO-G
9.7	4.8	14.7	44	92	33	31

1. 100
 2. 100
 3. 100
 4. 100
 5. 100
 6. 100
 7. 100
 8. 100
 9. 100
 10. 100
 11. 100
 12. 100
 13. 100
 14. 100
 15. 100
 16. 100
 17. 100
 18. 100
 19. 100
 20. 100
 21. 100
 22. 100
 23. 100
 24. 100
 25. 100
 26. 100
 27. 100
 28. 100
 29. 100
 30. 100
 31. 100
 32. 100
 33. 100
 34. 100
 35. 100
 36. 100
 37. 100
 38. 100
 39. 100
 40. 100
 41. 100
 42. 100
 43. 100
 44. 100
 45. 100
 46. 100
 47. 100
 48. 100
 49. 100
 50. 100
 51. 100
 52. 100
 53. 100
 54. 100
 55. 100
 56. 100
 57. 100
 58. 100
 59. 100
 60. 100
 61. 100
 62. 100
 63. 100
 64. 100
 65. 100
 66. 100
 67. 100
 68. 100
 69. 100
 70. 100
 71. 100
 72. 100
 73. 100
 74. 100
 75. 100
 76. 100
 77. 100
 78. 100
 79. 100
 80. 100
 81. 100
 82. 100
 83. 100
 84. 100
 85. 100
 86. 100
 87. 100
 88. 100
 89. 100
 90. 100
 91. 100
 92. 100
 93. 100
 94. 100
 95. 100
 96. 100
 97. 100
 98. 100
 99. 100
 100. 100

KBC
MIL/MP3
4.8

HR
G/DL
14.7

HCI
3
44

FCV
CU. "JCR
92

CHC
G/DI.

1 CH
PICO-G
21

5/20/1979 2:47 PM

DATE: 5/11
TIME:

SEX: F

TESTED
MOUNTAIN VIEW

DATE: 5/11
A.K.

24

..... B L O O D C H E M I S T R Y
.....

HA MG/DL	K MG/DL	CL MG/DL	CO2 MMOL/L	UREA-N MG/DL	CREAT MG/DL	RAI-ACF MG/DL
MAY 9 100	4.0	107	26	12	.9	11
1115R						

T-PICT G/DL	ALB G/DL	CA MG/DL	PC1 MG/DL	CHOL MG/DL	CLIC MG/DL	UREA-P MG/DL	URIC MG/DL
MAY 9 7.3	4.5	10.0	3.7	175	86	11	5.7
1115R							

LDH-T IU/L	SGOT IU/L	BILI-T MG/DL	ALK-P IU/L
MAY 9 107	12	.6	47
1115R			

Name) _____ A.K. _____

Date 11/24/78

Compound Administered _____

Time 02.2

Amount (gms) 32.20125

Body Weight

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

12.1 : K.2v1

[illegible]

SPECIAL INDIVIDUAL TEST FORM

NAME _____

AGE _____

DATE

11-21-78

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM TOTALLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

NO
Symptoms

LOADING STUDY

Name _____ Age _____ Date 11/28/78
 Compound Administered _____ Time 0755
 Amount (gms) 0.1 with 5 mg/kg Body Weight _____

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

RELATIVE

Baseline	0755
15 minutes	0800
30 minutes	0820
45 minutes	0840
60 minutes	0855
100 00 minutes	0935
120 minutes	0955
150 minutes	1015
180 minutes	1035
210 minutes	1055

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____

AGE _____

DATE _____

11-22-78

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (Time)	SYMPTOM DURATION (Time)	SYMPTOM TOTAL (Time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify):			

NO symptoms

Project entitled "A Study of the Effect of Aspartame on Human Subjects"

Dialogue With Human Volunteers

We wish to study subjects who have some reaction to the sweet taste of aspartame, when given a test meal of the dipeptide Aspartame. The control beverage will be sucrose, given in an amount to produce a similar level of sweetness.

This is a cross over type of experiment in which you will drink the beverage twice. On one occasion you will receive the beverage with aspartame (1 mg/ml), and on the other occasion you will receive the beverage with sucrose (1 mg/ml).

The study will be carried out on the following day. You will be asked to report there at 7:30 a.m., having fasted overnight. Prior to drinking the beverage, a 16 gauge needle will be inserted into your arm vein so as to allow repeated blood samples to be obtained without repeated venipuncture. Two or 3 cc of a dilute heparin solution will be instilled into the needle between the removal of blood samples to prevent clotting. Blood samples 5 ml in volume will be obtained at 0, 15, 30, 45, 60, 90, 120, 150, 180, and 240 minutes after drinking the beverage. Less than 3 cc of blood will be obtained over a period of 4 hours.

A brief medical history and physical examination will be carried out on each subject. Each participant will receive a urinalysis and a PSA 12/60, 6/60. All women will provide an a.m. urine specimen for pregnancy testing. Each participant will be asked to forego alcohol and other drugs for a period of 24 hours prior to testing.

Discomforts attendant to the project will be those of a needle, once fixed will be restricted for other than the test beverage to be provided at 7:30 hours. The other discomfort is that associated with venipuncture, which could be limited to one such procedure. Discomfort to the test area during the time of blood withdrawal and associated laceration will be a source of annoyance.

You are obviously free to withdraw from the study at any time without prejudice. Since the design of the study calls for two test meals, the use of each subject to two test meals, you will be asked to participate in the total study. Since failure to complete the two parts of the study invalidates the use of any one subject, withdrawal from the study at any time will result in only partial use of the subject's data (see date).

There are no identifiable risks to the study. The test meal will permit us to establish what effect aspartame has on the plasma aspartame level.

I have discussed the project with the subject representative and the subject representative has agreed to participate in this project.

SCREENING HEALTH QUESTIONNAIRE
(CLINICAL STUDIES - NORMAL SUBJECTS)

Name _____ DVR _____ Date 12/1/54
Sex F Birthdate 12/1/54

Place a check in front of each item if any relative has had the following:

Indicate relationship after each item using these code letters

Mother - M

Father - F

Aunt - A

Uncle - U

Brother - B

Sister - S

<input type="checkbox"/> Allergies	<input type="checkbox"/> Tuberculosis
<input type="checkbox"/> Asthma or Hay Fever	<input type="checkbox"/> Gout
<input type="checkbox"/> Anemia	<input type="checkbox"/> Heart Trouble
<input type="checkbox"/> Cancer or Tumor	<input type="checkbox"/> Stroke
<input type="checkbox"/> Diabetes	<input type="checkbox"/> High Blood Pressure
<input type="checkbox"/> Bleeding Problem	<input type="checkbox"/> Kidney Trouble
<input type="checkbox"/> Epilepsy (Convulsions)	<input type="checkbox"/> Arthritis
<input type="checkbox"/> Glaucoma	<input type="checkbox"/> Ulcer

Place a check in front of each item if you now have or have ever had any of the following:

<input type="checkbox"/> Diabetes	<input type="checkbox"/> Arthritis	<input type="checkbox"/> Yellow Jaundice
<input type="checkbox"/> Hives or Skin Rashes	<input type="checkbox"/> High Blood Pressure	<input type="checkbox"/> Malaria
<input type="checkbox"/> Chest Disease	<input type="checkbox"/> Gout	<input type="checkbox"/> Venereal Disease
<input type="checkbox"/> Eye Disease	<input type="checkbox"/> Asthma or Hay Fever	<input type="checkbox"/> Polio
<input type="checkbox"/> Liver Disease	<input type="checkbox"/> Pancreatitis	<input type="checkbox"/> Dental Problems
<input type="checkbox"/> Neuralgia or Neuritis	<input type="checkbox"/> Thyroid Disease	<input type="checkbox"/> Tuberculosis
<input type="checkbox"/> Any Serious Accidents	<input type="checkbox"/> Rheumatic Fever	<input type="checkbox"/> Kidney Trouble
<input checked="" type="checkbox"/> Any Surgery	<input type="checkbox"/> Scarlet Fever	<input type="checkbox"/> Cancer or Tumor
<input type="checkbox"/> Hospitalizations	<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Stroke
<input type="checkbox"/> Heart Trouble	<input type="checkbox"/> Anemia	<input type="checkbox"/> Menstrual Disorders
<input type="checkbox"/> Mononucleosis		

List Any Other Illness breast and aorta

If you have checked any of the above spaces or listed any other illness, please record below:

Illness or Operation	Month and Yr.	Hospitalized	If yes, how long?
<u>breast and aorta</u>	<u>Dec. '53</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<u>10 mos.</u>
_____	_____	Yes <input type="checkbox"/> No <input type="checkbox"/>	<u>_____</u>
_____	_____	Yes <input type="checkbox"/> No <input type="checkbox"/>	<u>_____</u>
_____	_____	Yes <input type="checkbox"/> No <input type="checkbox"/>	<u>_____</u>

SCREENING HEALTH QUESTIONNAIRE

CHECK THE APPROPRIATE SPACE FOR EACH OF THE FOLLOWING QUESTIONS:

Do you or have you ever had:

Yes	No	Yes	No
<input type="checkbox"/> Frequent Eye Infections	<input checked="" type="checkbox"/>	<input type="checkbox"/> Soaking Night Sweats	<input checked="" type="checkbox"/>
<input type="checkbox"/> Double Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Tightness in Your Chest	<input checked="" type="checkbox"/>
<input type="checkbox"/> Blurred Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Abnormal EKG (Electrocardiogram)	<input checked="" type="checkbox"/>
<input type="checkbox"/> Pain in the Eyes	<input checked="" type="checkbox"/>	<input type="checkbox"/> Fluttering of Heart	<input checked="" type="checkbox"/>
<input type="checkbox"/> Glaucoma	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent diarrhea	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cataracts	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Constipation	<input checked="" type="checkbox"/>
<input type="checkbox"/> Poor Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blood in Your Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Earaches	<input checked="" type="checkbox"/>	<input type="checkbox"/> Black or Tarry Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Ringing in Ears	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty in Swallowing	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Nosebleeds	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Heartburn or Indigestion	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Headaches	<input checked="" type="checkbox"/>	<input type="checkbox"/> Pain or Stiffness in Your Joints	<input checked="" type="checkbox"/>
<input type="checkbox"/> Shortness of Breath	<input checked="" type="checkbox"/>	<input type="checkbox"/> Pain or Burning on Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Difficulty in Lying Flat at Night	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty with Urinary Stream	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cough or Wheezing	<input checked="" type="checkbox"/>	<input type="checkbox"/> Increased Frequency of Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Fainting or Dizziness	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blood in Your Urine	<input checked="" type="checkbox"/>

Brain of 8 explained in brain of the Ciba
 relatively low-grade but. No much more in mind, just
 fine, 45 yrs
 L.J.F. 02/12/74

SCREENING HEALTH QUESTIONNAIRE

Please answer the following:

Are you currently taking or have you taken within the last 4 months:

YES

NO

<input type="checkbox"/>	Birth Control Pills	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Aspirin	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Antibiotics	<input type="checkbox"/>
<input type="checkbox"/>	Mineral Oil	<input type="checkbox"/>
<input type="checkbox"/>	Tranquillizers	<input type="checkbox"/>
<input type="checkbox"/>	Laxatives	<input type="checkbox"/>
<input type="checkbox"/>	Vitam	<input type="checkbox"/>
<input type="checkbox"/>	Sleeping Medicine	<input type="checkbox"/>
<input type="checkbox"/>	Sulfas	<input type="checkbox"/>
<input type="checkbox"/>	Thyroid Med	<input type="checkbox"/>
<input type="checkbox"/>	Estrogens	<input type="checkbox"/>
<input type="checkbox"/>	Cold or Cough Medicines	<input type="checkbox"/>
<input type="checkbox"/>	Anti-Coagulants	<input type="checkbox"/>
<input type="checkbox"/>	Weight Control Medicines	<input type="checkbox"/>

If you checked "Yes" for any of the above medicines please list names, doses (if known) and duration of therapy.

tetracycline Dose 250mg (2x/day) Duration Sept '78 → present

_____	Dose _____	Duration _____
_____	Dose _____	Duration _____
_____	Dose _____	Duration _____

Please indicate approximate weekly intake for following:

Liquor _____ Drinks/Wk.

Beer 2 Cans or Bottles/Wk.

Wine _____ Glasses/Wk.

Cigarettes 0 Day

PHYSICAL EXAMINATION FORM

Investigator Baker

Study _____

Record all important positive and negative findings.

Date of Examination May 15, 1979

Race C

Name _____

DVR _____

Age _____

Sex F

Weight _____

Pulse 64

Respiration 16

Blood Pressure 128/72

1. General well developed, well nourished

2. Skin N

3. Eyes N

4. Ears N

5. Nose N

6. Mouth N

7. Throat N

8. Neck N

9. Chest and Lungs N

10. Heart N

11. Abdomen N

12. Genitalia N

13. Lymphatic N

14. Vascular N

15. Locomotion N

16. Extremities N

17. Neurological N

George Baker MD
Physician's Signature

3/13/1979

CHART COPY

IP: RP

DOB: 1/01/1951

SEX: F

ISS: PED

ROOM: RESEAR

DATE: 3/13/79

DVR

25

***** H E M A T O L O G Y *****

WBC	HGB	HB	HCT	MCV	MCPC	MCH
4.3-11.6	4.2-5.5	12.3-	37-49	82-97	32-36	27-32
		16.2				
R/M3	MIL/	G/DL		CU.MICH	G/DL	PICT-G
\ MAR 13 2.8	3.9	12.0	37	95	32	31
\ 0820R						

***** C H E M I S T R Y *****

HA	K	CL	CO2	UREA-N	CREAT	BALANCE
135-145	3.5-5.0	95-105	24-32	10-20	.7-1.4	7-20
MEQ/L	MEQ/L	MEQ/L	MMOL/L	MG/DL	MG/DL	MEQ/L
\ MAR 13 147	4.1	106	27	9	.7	14
\ 0900R						

T-FRUT	ALB	CA	PO4	CHOL	GLUC	UREA-N	URIC
6.0-8.0	3.5-5.0	8.5-10.5	2.5-4.5	130-315	65-110	10-20	2.5-8.0
G/DL	G/DL	MG/DL	MG/DL	MG/DL	MG/DL	MG/DL	MG/DL
\ MAR 13 6.7	4.1	9.2	3.8	134	76	8	4.8
\ 0900R							

LDH-T	SGOT	BILI-T	ALK-P
100-225	7.5-40.0	.26-1.00	30-115
IU/L	IU/L	MG/DL	IU/L
\ MAR 13 177	29	.5	58
\ 0900R			

66

DVR

12

U N A L Y S I S

[illegible]

PL :

LOADING STUDY

Name _____ DVR _____ Date 03-13-79
 Compound Administered O.I. / SUCCINATE / AMY Time 0756
 Amount (gms) 300 mg O.I. Body Weight _____

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0752
15 minutes	0811
30 minutes	0824
45 minutes	0841
60 minutes	0856
90 minutes	0926
120 minutes	0954
150 minutes	1026
180 minutes	1056
240 minutes	1156

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME DVR

DATE

3/13/77

AD 120-110

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

LOADING STUDY

Name DVR Date 03-17-79
 Compound Administered 0.1 Thiamine/Sucrose Time 0753
 Amount (gms) 300 ml 5% Body Weight _____

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0753
15 minutes	0807
30 minutes	0823
45 minutes	0838
60 minutes	0853
90 minutes	0923
120 minutes	0953
150 minutes	1023
180 minutes	1053
240 minutes	1153

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____ DVR _____ DATE 13-17-79
 TEST MATERIAL _____ DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

Project entitled "Aspartame Ingestion in Subjects Who React to MSG"

Dialogue With Human Volunteers

We wish to study subjects who have some reaction to the amino acid, glutamate, when given a test meal of the dipeptide aspartame. The control substance will be sucrose, given in an amount to produce a similar level of sweetness.

This is a cross-over type of experiment in which you go through the procedure twice. On one occasion you receive the beverage with sucrose (1 gm/kg), and on the other occasion you receive the beverage with aspartame (34 mg/kg).

The study will be carried out in the Pediatric Outpatient Clinic. You will be asked to report there at 0730 hours, having fasted from midnight. Prior to drinking the beverage, a 20 gauge needle will be placed in the forearm vein so as to allow repeated blood samples to be obtained without repeated venipuncture. Two or 3 cc of a dilute heparin solution will be instilled into the needle between the removal of blood samples to prevent clotting. Blood samples 5 ml in volume will be obtained at 0, 15, 30, 45, 60, 90, 120, 150, 180 and 240 minutes after drinking the beverage. Less than 3 ozs. of blood will be obtained over a period of 4 hours.

A brief medical history and physical examination will be carried out on each subject. Each participant will receive a urinalysis and a SMA 12/60, 6/60. All women will provide an a.m. urine specimen for pregnancy testing. Each participant will be asked to forego alcohol and other drugs for a period of 24 hours prior to testing.

Discomforts attendant to the project will be that of hunger, since food will be restricted for other than the test beverage to be provided at 0800 hours. The other discomfort is that associated with venipuncture, which should be limited to one such procedure. Confinement to the test area during the time of blood withdrawal and associated boredom will be a source of annoyance.

You are obviously free to withdraw from the project at any time without prejudice. Since the design of the project calls for establishing the response of each subject to two test meals, you will be paid \$100 at the completion of the total study. Since failure to complete the two parts of the study invalidates the use of any one subject, withdrawal prior to completion of the study design will result in only partial payment of the allocated fee (\$50 per study date).

There are no identifiable benefits to you; however, these studies will permit us to establish what influence if any the administration of a dipeptide has on the plasma aminogram when given in conjunction with a beverage.

I have discussed the above points with the subject or his legally authorized representative using a translator if necessary. It is my opinion that the subject understands the risks, benefits, and obligations involved in participation in this project.

Scary Z. Butler
Investigator

075

SCREENING HEALTH QUESTIONNAIRE
(CLINICAL STUDIES -- NORMAL SUBJECTS)

Name _____ RH _____ Date 2-21-79

Sex yes Birthdate 6/23/55

Place a check in front of each item if any relative has had the following:

Indicate relationship after each item using these code letters

Mother - M

Father - F

Aunt - A

Uncle - U

Brother - B

Sister - S

<u>B</u> Allergies	<u>X</u>	Tuberculosis	_____
_____ Asthma or Hay Fever	_____	Gout	_____
_____ Anemia	_____	Heart Trouble	_____
_____ Cancer or Tumor	_____	Stroke	_____
<u>MGM</u> Diabetes	<u>A</u>	High Blood Pressure	_____
_____ Bleeding Problem	_____	Kidney Trouble	_____
_____ Epilepsy (Convulsions)	_____	Arthritis	_____
_____ Glaucoma	_____	Ulcer	_____

Place a check in front of each item if you now have or have ever had any of the following:

_____ Diabetes	_____ Arthritis	_____ Yellow Jaundice
_____ Hives or Skin Rashes	_____ High Blood Pressure	_____ Malaria
_____ Chest Disease	_____ Gout	_____ Venereal Disease
_____ Eye Disease	_____ Asthma or Hay Fever	_____ Polio
_____ Liver Disease	_____ Pancreatitis	_____ Dental Problems
_____ Neuralgia or Neuritis	_____ Thyroid Disease	_____ Tuberculosis
_____ Any Serious Accidents	_____ Rheumatic Fever	_____ Kidney Trouble
_____ Any Surgery	_____ Scarlet Fever	_____ Cancer or Tumor
_____ Hospitalizations	_____ Pneumonia	_____ Stroke
_____ Heart Trouble	_____ Anemia	_____ Menstrual Disorders
_____ Mononucleosis		

List Any Other Illness _____

If you have checked any of the above spaces or listed any other illness, please record below:

Illness or Operation	Month and Yr.	Hospitalized	If yes, how long?
_____	_____	Yes _____ No _____	_____ mos. _____ wks. _____ d.
_____	_____	Yes _____ No _____	_____ mos. _____ wks. _____ d.
_____	_____	Yes _____ No _____	_____ mos. _____ wks. _____ d.
_____	_____	Yes _____ No _____	_____ mos. _____ wks. _____ d.

SCREENING HEALTH QUESTIONNAIRE

CHECK THE APPROPRIATE SPACE FOR EACH OF THE FOLLOWING QUESTIONS:

Do you or have you ever had:

Yes	No	Yes	No
<input type="checkbox"/> Frequent Eye Infections	<input checked="" type="checkbox"/>	<input type="checkbox"/> Soaking Night Sweats	<input type="checkbox"/>
<input type="checkbox"/> Double Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Tightness in Your Chest	<input checked="" type="checkbox"/>
<input type="checkbox"/> Blurred Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Abnormal EKG (Electrocardiogram)	<input checked="" type="checkbox"/>
<input type="checkbox"/> Pain in the Eyes	<input checked="" type="checkbox"/>	<input type="checkbox"/> Fluttering of Heart	<input checked="" type="checkbox"/>
<input type="checkbox"/> Glaucoma	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent diarrhea	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cataracts	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Constipation	<input type="checkbox"/>
<input checked="" type="checkbox"/> Poor Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blood in Your Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Earaches	<input checked="" type="checkbox"/>	<input type="checkbox"/> Black or Tarry Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Ringing in Ears	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty in Swallowing	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Nosebleeds	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Heartburn or Indigestion	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Headaches	<input checked="" type="checkbox"/>	<input type="checkbox"/> Pain or Stiffness in Your Joints	<input checked="" type="checkbox"/>
<input type="checkbox"/> Shortness of Breath	<input checked="" type="checkbox"/>	<input type="checkbox"/> Pain or Burning on Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Difficulty in Lying Flat at Night	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty with Urinary Stream	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cough or Wheezing	<input checked="" type="checkbox"/>	<input type="checkbox"/> Increased Frequency of Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Fainting or Dizziness	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blood in Your Urine	<input checked="" type="checkbox"/>

SCREENING HEALTH QUESTIONNAIRE

Please answer the following:

Are you currently taking or have you taken within the last 4 months:

YES	NO
<input type="checkbox"/> Birth Control Pills	<input checked="" type="checkbox"/>
<input type="checkbox"/> Aspirin	<input checked="" type="checkbox"/>
<input type="checkbox"/> Antibiotics	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mineral Oil	<input checked="" type="checkbox"/>
<input type="checkbox"/> Tranquillizers	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Laxatives	<input type="checkbox"/>
<input type="checkbox"/> Vitam	<input checked="" type="checkbox"/>
<input type="checkbox"/> Sleeping Medicine	<input checked="" type="checkbox"/>
<input type="checkbox"/> Sulfas	<input checked="" type="checkbox"/>
<input type="checkbox"/> Thyroid Med	<input checked="" type="checkbox"/>
<input type="checkbox"/> Estrogens	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Cold or Cough Medicines	<input type="checkbox"/>
<input type="checkbox"/> Anti-Coagulants	<input checked="" type="checkbox"/>
<input type="checkbox"/> Weight Control Medicines	<input checked="" type="checkbox"/>

If you checked "Yes" for any of the above medicines please list names, doses (if known) and duration of therapy.

Bisacodyl Dose 6 suppositories Duration 1 week
Nyquil Dose 2 doses Duration 2 days
 _____ Dose _____ Duration _____
 _____ Dose _____ Duration _____

Please indicate approximate weekly intake for following:

Liquor 1-2 Drinks per Month
 Beer _____ Cans or Bottles/Wk.
 Wine _____ Glasses/Wk.
 Cigarettes None Day

Investigator

Dalton

Study

Record all important positive and negative findings.

Date of Examination

March, 1979

Race

Cauc

Name

RH

Age 23

Sex

yes

Weight

195

Pulse 60

Respiration

18

Blood Pressure

128/80

1. General Normal

2. Skin OK

3. Eyes OK - corrected - 8 diopters bilat

4. Ears OK

5. Nose OK

6. Mouth OK

7. Throat OK

8. Neck OK

9. Chest and Lungs OK

10. Heart OK (normal)

11. Abdomen OK

12. Genitalia N

13. Lymphatic N

14. Vascular N

15. Locomotion N

16. Extremities N

17. Neurological N

Henry Dalton
Physician

2/21/1979 2240 HH

ART COPY

MO : 41705

PP: NP
DOB:

SEX : M

NS: 0611
ROOM: RES

NAME: RH
10

U R I N A L Y S I S

SG	PH	APPR	PROT	GLUC	KETO	BILE	BLD
FEB 21 0-00	1.026	=6	YELD CLR	NEG	NEG	NEG	NEG
WBC	RBC	BACT	CAST	CAST	REMARK	REMARK	
FEB 21 0800D	1	0	NONE	NONE	NONE	NONE	

DR. NORMAL
DR. CODE B206
TECH CODE FILER

☒ Routine
☐ Finish Tube
☐ Emergency
Call Ext. _____
Location _____
☒ CBC
☐ DIFFERENTIAL
☐ PLATELET
☐ RETIC
☐ SED. RATE

2	2	1	TEST	Differential WBC	0900R
6	3	6	WBC	Neut. Segs	%
0	0	0	RBC	Neut. Bands	
5	2	1	HGB	Neut. Metamyelocytes	
1	5	4	HCT	Neut. Myelocytes	
4	5	5	MCV	Promyelocytes	
0	8	6	MCH	Blasts	
2	9	6	MCHC	Eosinophils	
3	3	6	RDW	Basophils	
			Platelets	Lymphocytes	
			Reti	Monocytes	
			ESR	RBC Morphology	
				Normal	
				Hypochromia	
				Polychromasia	
				Poikilocytosis	
				Anisocytosis	
				Schistocytes	
				Target Cells	
				Basophilic Stippling	
				Howell-Jolly Bodies	
				Nucleated RBC	

COMMENTS:

DATE 02-21-79
HOSP NO _____
NAME RH
AGE 23 YR.
ADDRESS _____

CHARGE Q611

WA HOSPITAL
OF REPORT

U OF I HOSPITALS AND CLINICS - DEPT. OF PATHOLOGY
USE IMPRINTED STAMP PLATE ONLY 7514 2508 R 11 77

LOADING STUDY

Name _____ RH _____ Date 02-21-79

Compound Administered APM/848225/05 Time 0815

Amount (gms) _____ Body Weight _____

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

	Baseline	0815
	15 minutes	0830
35	30 minutes	0830
	45 minutes	0900
	60 minutes	0915
	90 minutes	0945
	120 minutes	1015
	150 minutes	1045
	180 minutes	1115
	240 minutes	1215

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____ RH _____ DATE 2-21-77

TEST MATERIAL _____ DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

No reaction noted

2-21-77

053

LOADING STUDY

Name _____ RI. _____ Date 03-01-77

Compound Administered 0.5 Sucrose/100g Time 0700

Amount (gms) _____ Body Weight _____

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0750
15 minutes	0805
30 minutes	0820
45 minutes	0835
60 minutes	0850
90 minutes	0920
120 minutes	0950
150 minutes	1020
180 minutes	1050
240 minutes	1150

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____

RH _____

DATE March 1, 1979

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

No reactions

L. J. Dela

085

Project entitled "Aspartame Ingestion in Subjects with Faulty Taste"
Dialogue With Human Volunteers

We wish to study subjects who have some reaction to the amino acid, glutamate, when given a test meal of the dipeptide aspartame. The control substance will be sucrose, given in an amount to produce a similar level of sweetness.

This is a cross-over type of experiment in which you go through the procedure twice. On one occasion you receive the beverage with sucrose (1 gm/kg), and on the other occasion you receive the beverage with aspartame (34 mg/kg).

The study will be carried out in the Pediatric Outpatient Clinic. You will be asked to report there at 0730 hours, having fasted from midnight. Prior to drinking the beverage, a 20 gauge needle will be placed in the forearm vein so as to allow repeated blood samples to be obtained without repeated venipuncture. Two or 3 cc of a dilute heparin solution will be instilled into the needle between the removal of blood samples to prevent clotting. Blood samples 5 ml in volume will be obtained at 0, 15, 30, 45, 60, 90, 120, 150, 180 and 240 minutes after drinking the beverage. Less than 3 ozs. of blood will be obtained over a period of 4 hours.

A brief medical history and physical examination will be carried out on each subject. Each participant will receive a urinalysis and a SMA 12/60, 6/60. All women will provide an a.m. urine specimen for pregnancy testing. Each participant will be asked to forego alcohol and other drugs for a period of 24 hours prior to testing.

Discomforts attendant to the project will be that of hunger, since food will be restricted for other than the test beverage to be provided at 0800 hours. The other discomfort is that associated with venipuncture, which should be limited to one such procedure. Confinement to the test area during the time of blood withdrawal and associated boredom will be a source of annoyance.

You are obviously free to withdraw from the project at any time without prejudice. Since the design of the project calls for establishing the response of each subject to two test meals, you will be paid \$100 at the completion of the total study. Since failure to complete the two parts of the study invalidates the use of any one subject, withdrawal prior to completion of the study design will result in only partial payment of the allocated fee (\$50 per study date).

There are no identifiable benefits to you; however, these studies will permit us to establish what influence if any the administration of a dipeptide has on the plasma aminogram when given in conjunction with a beverage.

I have discussed the above points with the subject or his legally authorized representative using a translator if necessary. It is my opinion that the subject understands the risks, benefits, and obligations involved in participation in this project.

[Handwritten signature]

SCREENING HEALTH QUESTIONNAIRE
(CLINICAL STUDIES - NORMAL SUBJECTS)

Name _____ Date _____

Sex 177-14 Birthdate 12/2/57

Place a check in front of each item if any relative has had the following:

Indicate relationship after each item using these code letters

Mother - M

Father - F

Aunt - A

Uncle - U

Brother - B

Sister - \$

<input checked="" type="checkbox"/>	Allergies	<input type="checkbox"/>	Tuberculosis	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Asthma or Hay Fever	<input type="checkbox"/>	Gout	<input type="checkbox"/>
<input type="checkbox"/>	Anemia	<input type="checkbox"/>	Heart Trouble	<input type="checkbox"/>
<input type="checkbox"/>	Cancer or Tumor	<input type="checkbox"/>	Stroke	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Diabetes	<input type="checkbox"/>	High Blood Pressure	<input type="checkbox"/>
<input type="checkbox"/>	Bleeding Problem	<input type="checkbox"/>	Kidney Trouble	<input type="checkbox"/>
<input type="checkbox"/>	Epilepsy (Convulsions)	<input type="checkbox"/>	Arthritis	<input type="checkbox"/>
<input type="checkbox"/>	Glaucoma	<input type="checkbox"/>	Ulcer	<input type="checkbox"/>

Place a check in front of each item if you now have or have ever had any of the following:

<input type="checkbox"/> Diabetes	<input type="checkbox"/> Arthritis	<input type="checkbox"/> Yellow Jaundice
<input checked="" type="checkbox"/> Hives or Skin Rashes	<input type="checkbox"/> High Blood Pressure	<input type="checkbox"/> Malaria
<input type="checkbox"/> Chest Disease	<input type="checkbox"/> Gout	<input type="checkbox"/> Venereal Disease
<input type="checkbox"/> Eye Disease	<input type="checkbox"/> Asthma or Hay Fever	<input type="checkbox"/> Polio
<input type="checkbox"/> Liver Disease	<input type="checkbox"/> Pancreatitis	<input type="checkbox"/> Dental Problems
<input type="checkbox"/> Neuralgia or Neuritis	<input type="checkbox"/> Thyroid Disease	<input type="checkbox"/> Tuberculosis
<input type="checkbox"/> Any Serious Accidents	<input type="checkbox"/> Rheumatic Fever	<input type="checkbox"/> Kidney Trouble
<input type="checkbox"/> Any Surgery	<input type="checkbox"/> Scarlet Fever	<input type="checkbox"/> Cancer or Tumor
<input checked="" type="checkbox"/> Hospitalizations	<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Stroke
<input type="checkbox"/> Heart Trouble	<input type="checkbox"/> Anemia	<input type="checkbox"/> Menstrual Disorders
<input type="checkbox"/> Mononucleosis		

List Any Other Illness

If you have checked any of the above spaces or listed any other illness, please record by

Illness or Operation	Month and Yr.	Hospitalized		If yes, how long?	
		Yes	No	mos.	wks.
gonorrhea completely cured by drugs injected	Aug. 1973	Yes	No	mos.	wks.
		Yes	No	mos.	wks.
		Yes	No	mos.	wks.
		Yes	No	mos.	wks.

SCREENING HEALTH QUESTIONNAIRE

CHECK THE APPROPRIATE SPACE FOR EACH OF THE FOLLOWING QUESTIONS:

Do you or have you ever had:

Yes	No	Yes	No
<input type="checkbox"/> Frequent Eye Infections	<input checked="" type="checkbox"/>	<input type="checkbox"/> Soaking Night Sweats	<input checked="" type="checkbox"/>
<input type="checkbox"/> Double Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Tightness in Your Chest	<input checked="" type="checkbox"/>
<input type="checkbox"/> Blurred Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Abnormal EKG (Electrocardiogram)	<input checked="" type="checkbox"/>
<input type="checkbox"/> Pain in the Eyes	<input checked="" type="checkbox"/>	<input type="checkbox"/> Fluttering of Heart	<input checked="" type="checkbox"/>
<input type="checkbox"/> Glaucoma	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent diarrhea	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cataracts	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Constipation	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Poor Vision	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blood in Your Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Earaches	<input checked="" type="checkbox"/>	<input type="checkbox"/> Black or Tarry Stools	<input checked="" type="checkbox"/>
<input type="checkbox"/> Ringing in Ears	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty in Swallowing	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Nosebleeds	<input checked="" type="checkbox"/>	<input type="checkbox"/> Frequent Heartburn or Indigestion	<input checked="" type="checkbox"/>
<input type="checkbox"/> Frequent Headaches	<input checked="" type="checkbox"/>	<input type="checkbox"/> Pain or Stiffness in Your Joints	<input checked="" type="checkbox"/>
<input type="checkbox"/> Shortness of Breath	<input checked="" type="checkbox"/>	<input type="checkbox"/> Pain or Burning on Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Difficulty in Lying Flat at Night	<input checked="" type="checkbox"/>	<input type="checkbox"/> Difficulty with Urinary Stream	<input checked="" type="checkbox"/>
<input type="checkbox"/> Cough or Wheezing	<input checked="" type="checkbox"/>	<input type="checkbox"/> Increased Frequency of Urination	<input checked="" type="checkbox"/>
<input type="checkbox"/> Fainting or Dizziness	<input checked="" type="checkbox"/>	<input type="checkbox"/> Blood in Your Urine	<input checked="" type="checkbox"/>

SCREENING HEALTH QUESTIONNAIRE

Please answer the following:

Are you currently taking or have you taken within the last 4 months:

YES

NO

<input checked="" type="checkbox"/> Birth Control Pills	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Aspirin	<input type="checkbox"/>
<input checked="" type="checkbox"/> Antibiotics	<input checked="" type="checkbox"/>
<input type="checkbox"/> Mineral Oil	<input checked="" type="checkbox"/>
<input type="checkbox"/> Tranquillizers	<input checked="" type="checkbox"/>
<input type="checkbox"/> Laxatives	<input checked="" type="checkbox"/>
<input type="checkbox"/> Vitam	<input checked="" type="checkbox"/>
<input type="checkbox"/> Sleeping Medicine	<input checked="" type="checkbox"/>
<input type="checkbox"/> Sulfas	<input checked="" type="checkbox"/>
<input type="checkbox"/> Thyroid Med	<input checked="" type="checkbox"/>
<input type="checkbox"/> Estrogens	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Cold or Cough Medicines	<input checked="" type="checkbox"/>
<input type="checkbox"/> Anti-Coagulants	<input checked="" type="checkbox"/>
<input type="checkbox"/> Weight Control Medicines	<input checked="" type="checkbox"/>

If you checked "Yes" for any of the above medicines please list names, doses (if known) and duration of therapy.

Aspirin Dose occasionally 2-4 a week Duration

Nyquil Dose 1 cap @ night Duration 5 days

_____ Dose _____ Duration _____

_____ Dose _____ Duration _____

Please indicate approximate weekly intake for following:

Liquor 3 Drinks/Wk.

Beer 12 Cans or Bottles/Wk.

Wine 0 Glasses/Wk.

Cigarettes 0 Day

PHYSICAL EXAMINATION FORM

Investigator _____ Study _____

Record all important positive and negative findings.

Date of Examination 3/19/79 Race Cauc

Name LE Age 24 Sex M Weight _____

Pulse 60 Respiration 16 Blood Pressure 120/64

1. General W/D W/N
2. Skin N
3. Eyes N contact lenses
4. Ears N
5. Nose N
6. Mouth N
7. Throat N
8. Neck N
9. Chest and Lungs N
10. Heart N
11. Abdomen N
12. Genitalia N
13. Lymphatic N
14. Vascular N
15. Locomotion N
16. Extremities iv
17. Neurological N

SBarker
Physician's Signature

3/13/79 2212 H

CLINICAL COPY

LAB: TP
TIME: 1701/1955 STA: M

WBC	RBC	HB	HCT	MCV	RDW	MCH
4.3-11	4.7-6.1	14.2-18.0	42-54	82-97	32-36	27-32
K/MP3	ML/MM3	G/DL		CU. MICH	G/DL	PICU-G
MAR 13 4.6	4.9	13.5	42	86	32	28
1400R						

DR. NORMAN

DR CODE
B206
TECH CODE

☒ Routine
☐ Finger Tap
☐ Cal
☐ Location

☒ CBC
☒ DIFFERENTIAL
☐ PLATELET
☐ RETIC
☐ SED. RATE

DR. FILER

PE/MD

TEST	DIFFERENTIAL WBC
WBC x 10 ³	Neut Segs 49
RBC x 10 ⁶	Neut Bands
HGB gm	Neut Metamyelocytes
HCT %	Neut Myelocytes
MCV dL	Promyelocytes
MCH pg	Blasts
MCHC g	Eosinophils
	Basophils
	Lymphocytes 47
	Monocytes 5
	RBC Morphology
	Normal
	Hypochromia
	Polychromasia
	Poikilocytosis
	Anisocytosis
	Schistocytes
	Target Cells
	Reticulocyte Count
	Howell-Jolly Bodies
	Nucleated RBC

COMMENTS:

DATE .

HOSP NO

NAME LE

AGE 24

ADDRESS

CHARGE Q 6.11

U OF I HOSPITALS AND CLINICS • DEPT. OF PATHOLOGY
USE IMPRINTED STAMP DATE ONLY 75162508 R11.7

UNIVERSITY OF IOWA HOSPITALS AND CLINICS
END OF REPORT

091

6, 24: 6, 22

١٢ : ٥١ : ٤٧

21

..... U P I N A L Y S I S

[illegible]

NEG NEGATIVE

UNIVERSITY OF IOWA HOSPITALS AND CLINICS
END OF REPORT

092

61. 0.1 66.51

17: 117
ALL: 115

LOADING STUDY

Name CE Date 03-13-79
 Compound Administered 0.5 / 5.12125 / 100mg Time 0805
 Amount (gms) 220 ml 0.5 Body Weight

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0805
15 minutes	0820
30 minutes	0835
45 minutes	0850
60 minutes	0905
90 minutes	0935
120 minutes	1005
150 minutes	1035
180 minutes	1105
240 minutes	1205

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME CE DATE 3/13/77

TEST MATERIAL _____ DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

No symptoms
CE

LOADING STUDY

Name CE Date 03-17-17

Compound Administered 0.5 / 100 mg / 1000 g Time 0758

Amount (gms) 0.5 Body Weight 1000

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0758
15 minutes	0813
30 minutes	0828
45 minutes	0843
60 minutes	0858
90 minutes	0928
120 minutes	0958
150 minutes	1028
180 minutes	1058
240 minutes	1128

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____ CE _____

DATE 7-12-71

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

Project entitled "Aspartame Intoxication in Subjects Who React to It"

Dialogue With Human Volunteers

We wish to study subjects who have some reaction to the amino acid, glutamate, when given a test meal of the dipeptide aspartame. The control substance will be sucrose, given in an amount to produce a similar level of sweetness.

This is a cross-over type of experiment in which you go through the procedure twice. On one occasion you receive the beverage with sucrose (1 gm/kg), and on the other occasion you receive the beverage with aspartame (34 mg/kg).

The study will be carried out in the Pediatric Outpatient Clinic. You will be asked to report there at 0730 hours, having fasted from midnight. Prior to drinking the beverage, a 20 gauge needle will be placed in the forearm vein so as to allow repeated blood samples to be obtained without repeated venipuncture. Two or 3 cc of a dilute heparin solution will be instilled into the needle between the removal of blood samples to prevent clotting. Blood samples 5 ml in volume will be obtained at 0, 15, 30, 45, 60, 90, 120, 150, 180 and 240 minutes after drinking the beverage. Less than 3 ozs. of blood will be obtained over a period of 4 hours.

A brief medical history and physical examination will be carried out on each subject. Each participant will receive a urinalysis and a SMA 12/60, 6/60. All women will provide an a.m. urine specimen for pregnancy testing. Each participant will be asked to forego alcohol and other drugs for a period of 24 hours prior to testing.

Discomforts attendant to the project will be that of hunger, since food will be restricted for other than the test beverage to be provided at 0800 hours. The other discomfort is that associated with venipuncture, which should be limited to one such procedure. Confinement to the test area during the time of blood withdrawal and associated boredom will be a source of annoyance.

You are obviously free to withdraw from the project at any time without prejudice. Since the design of the project calls for establishing the response of each subject to two test meals, you will be paid \$100 at the completion of the total study. Since failure to complete the two parts of the study invalidates the use of any one subject, withdrawal prior to completion of the study design will result in only partial payment of the allocated fee (\$50 per study date).

There are no identifiable benefits to you; however, these studies will permit us to establish what influence if any the administration of a dipeptide has on the plasma aminogram when given in conjunction with a beverage.

I have discussed the above points with the subject or his legally authorized representative using a translator if necessary. It is my opinion that the subject understands the risks, benefits, and obligations involved in participation in this project.

Scary Z. Butler
Investigator

095

SCREENING HEALTH QUESTIONNAIRE
(CLINICAL STUDIES -- NORMAL SUBJECTS)

Name _____ KC _____ Date _____

Sex Male Birthdate 6/11/55

Place a check in front of each item if any relative has had the following:

Indicate relationship after each item using these code letters

Mother - M Father - F Aunt - A
Uncle - U Brother - B Sister - S

<input type="checkbox"/> Allergies	<input type="checkbox"/>	<input type="checkbox"/> Tuberculosis	<input type="checkbox"/>
<input type="checkbox"/> Asthma or Hay Fever	<input type="checkbox"/>	<input type="checkbox"/> Gout	<input type="checkbox"/>
<input type="checkbox"/> Anemia	<input type="checkbox"/>	<input type="checkbox"/> Heart Trouble	<input type="checkbox"/>
<input type="checkbox"/> Cancer or Tumor	<input type="checkbox"/>	<input type="checkbox"/> Stroke	<input type="checkbox"/>
<input type="checkbox"/> Diabetes	<input type="checkbox"/>	<input type="checkbox"/> High Blood Pressure	<input type="checkbox"/>
<input type="checkbox"/> Bleeding Problem	<input type="checkbox"/>	<input type="checkbox"/> Kidney Trouble	<input type="checkbox"/>
<input type="checkbox"/> Epilepsy (Convulsions)	<input type="checkbox"/>	<input type="checkbox"/> Arthritis	<input type="checkbox"/>
<input type="checkbox"/> Glaucoma	<input type="checkbox"/>	<input type="checkbox"/> Ulcer	<input type="checkbox"/>

Place a check in front of each item if you now have or have ever had any of the following:

<input type="checkbox"/> Diabetes	<input type="checkbox"/> Arthritis	<input type="checkbox"/> Yellow Jaundice
<input type="checkbox"/> Hives or Skin Rashes	<input type="checkbox"/> High Blood Pressure	<input type="checkbox"/> Malaria
<input type="checkbox"/> Chest Disease	<input type="checkbox"/> Gout	<input type="checkbox"/> Venereal Disease
<input type="checkbox"/> Eye Disease	<input type="checkbox"/> Asthma or Hay Fever	<input type="checkbox"/> Folio
<input type="checkbox"/> Liver Disease	<input type="checkbox"/> Pancreatitis	<input type="checkbox"/> Dental Problems
<input type="checkbox"/> Neuralgia or Neuritis	<input type="checkbox"/> Thyroid Disease	<input type="checkbox"/> Tuberculosis
<input checked="" type="checkbox"/> Any Serious Accidents	<input type="checkbox"/> Rheumatic Fever	<input type="checkbox"/> Kidney Trouble
<input checked="" type="checkbox"/> Any Surgery	<input type="checkbox"/> Scarlet Fever	<input type="checkbox"/> Cancer or Tumor
<input checked="" type="checkbox"/> Hospitalizations	<input type="checkbox"/> Pneumonia	<input type="checkbox"/> Stroke
<input type="checkbox"/> Heart Trouble	<input type="checkbox"/> Anemia	<input type="checkbox"/> Menstrual Disorders
<input type="checkbox"/> Mononucleosis		

List Any Other Illness _____

If you have checked any of the above spaces or listed any other illness, please record below

Illness or Operation	Month and Yr.	Hospitalized	If yes, how long?
<u>Tonsillectomy</u>	_____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	_____ mos. _____ wks. _____ d.
<u>Partial Menisectomy</u>	<u>3/70</u>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	_____ mos. _____ wks. <u>3</u> d.
_____	_____	Yes _____ No <input type="checkbox"/>	_____ mos. _____ wks. _____ d.
_____	_____	Yes _____ No <input type="checkbox"/>	_____ mos. _____ wks. _____ d.

099

SCREENING HEALTH QUESTIONNAIRE

CHECK THE APPROPRIATE SPACE FOR EACH OF THE FOLLOWING QUESTIONS:

Do you or have you ever had:

Yes	No	Yes	No
<input type="checkbox"/> Frequent Eye Infections	<input type="checkbox"/>	<input type="checkbox"/> Soaking Night Sweats	<input type="checkbox"/>
<input type="checkbox"/> Double Vision	<input type="checkbox"/>	<input type="checkbox"/> Tightness in Your Chest	<input type="checkbox"/>
<input type="checkbox"/> Blurred Vision	<input type="checkbox"/>	<input type="checkbox"/> Abnormal EKG (Electrocardiogram)	<input type="checkbox"/>
<input type="checkbox"/> Pain in the Eyes	<input type="checkbox"/>	<input type="checkbox"/> Fluttering of Heart	<input type="checkbox"/>
<input type="checkbox"/> Glaucoma	<input type="checkbox"/>	<input type="checkbox"/> Frequent diarrhea	<input type="checkbox"/>
<input type="checkbox"/> Cataracts	<input type="checkbox"/>	<input type="checkbox"/> Frequent Constipation	<input type="checkbox"/>
<input checked="" type="checkbox"/> Poor Vision	<input type="checkbox"/>	<input type="checkbox"/> Blood in Your Stools	<input type="checkbox"/>
<input type="checkbox"/> Frequent Earaches	<input type="checkbox"/>	<input type="checkbox"/> Black or Tarry Stools	<input type="checkbox"/>
<input type="checkbox"/> Ringing in Ears	<input type="checkbox"/>	<input type="checkbox"/> Difficulty in Swallowing	<input type="checkbox"/>
<input type="checkbox"/> Frequent Nosebleeds	<input type="checkbox"/>	<input type="checkbox"/> Frequent Heartburn or Indigestion	<input type="checkbox"/>
<input type="checkbox"/> Frequent Headaches	<input type="checkbox"/>	<input type="checkbox"/> Pain or Stiffness in Your Joints	<input type="checkbox"/>
<input type="checkbox"/> Shortness of Breath	<input type="checkbox"/>	<input type="checkbox"/> Pain or Burning on Urination	<input type="checkbox"/>
<input type="checkbox"/> Difficulty in Lying Flat at Night	<input type="checkbox"/>	<input type="checkbox"/> Difficulty with Urinary Stream	<input type="checkbox"/>
<input type="checkbox"/> Cough or Wheezing	<input type="checkbox"/>	<input type="checkbox"/> Increased Frequency of Urination	<input type="checkbox"/>
<input type="checkbox"/> Fainting or Dizziness	<input type="checkbox"/>	<input type="checkbox"/> Blood in Your Urine	<input type="checkbox"/>

SCREENING HEALTH QUESTIONNAIRE

Please answer the following:

Are you currently taking or have you taken within the last 4 months:

YES

NO

<input type="checkbox"/> Birth Control Pills	<input type="checkbox"/>
<input checked="" type="checkbox"/> Aspirin	<input type="checkbox"/>
<input type="checkbox"/> Antibiotics	<input type="checkbox"/>
<input type="checkbox"/> Mineral Oil	<input type="checkbox"/>
<input type="checkbox"/> Tranquillizers	<input type="checkbox"/>
<input type="checkbox"/> Laxatives	<input type="checkbox"/>
<input type="checkbox"/> Vitam	<input type="checkbox"/>
<input type="checkbox"/> Sleeping Medicine	<input type="checkbox"/>
<input type="checkbox"/> Sulfas	<input type="checkbox"/>
<input type="checkbox"/> Thyroid Med	<input type="checkbox"/>
<input type="checkbox"/> Estrogens	<input type="checkbox"/>
<input type="checkbox"/> Cold or Cough Medicines	<input type="checkbox"/>
<input type="checkbox"/> Anti-Coagulants	<input type="checkbox"/>
<input type="checkbox"/> Weight Control Medicines	<input type="checkbox"/>

If you checked "Yes" for any of the above medicines please list names, doses (if known) and duration of therapy.

<u>Aspirin</u>	Dose	<u>2 tablets</u>	Duration	<u>once</u>
_____	Dose	_____	Duration	_____
_____	Dose	_____	Duration	_____
_____	Dose	_____	Duration	_____

Please indicate approximate weekly intake for following:

Liquor	<u>zero</u>	Drinks/Wk.
Beer	<u>zero</u>	Cans or Bottles/Wk.
Wine	<u>zero</u>	Glasses/Wk.
Cigarettes	<u>zero</u>	Day

PHYSICAL EXAMINATION FORM

Investigator L J Filer

Study ANP/PT/EE

Record all important positive and negative findings.

Date of Examination 03-19-79

Race Caucasian

Name KC

Age 23

Sex M

Weight 80.8

Pulse 64

Respiration 16

Blood Pressure 128/82

140/82 R02

1. General W D W N

2. Skin Clear

3. Eyes Wears glasses R0208 Faint not examined

4. Ears 0

5. Nose 0

6. Mouth 0

7. Throat 0

8. Neck 0

9. Chest and Lungs 0

10. Heart 0

11. Abdomen 0

12. Genitalia 0

13. Lymphatic 0

14. Vascular 0

15. Locomotion 0

16. Extremities 0

17. Neurological Intact

[Signature]
Physician's Signature

CLINICAL COPY

DATE: 3/17/1956 SEA: A

TIME: 1230

***** I N A L Y S I S *****

SG	PH	APPR	T-PROT	GLUC	KETO	BILE	BLD	UBG
MAR 17 1.024	=5	YELO	NEG	NEG	NEG	NEG	NEG	NEG
1235R		CLM						
KPC	KDC	PACT	CAST	CAST	PFMARK	REMARK		
MAR 17 1	0	NONE	NONE	NONE	NONE	NONE		
1235R								
***** H E M A T O L O G Y *****								
RBC	RBC	HGB	HCT	MCV	MCHC	MCH	PLT	
4.3-11.0	4.7-10.4	14.6	42-54	82-97	32-36	27-32	150-400	
K/MM3	MIL/MM3	G/DL	%	CU.PICR	G/DL	PICU-G	K/MM3	
MAR 17 1.1	1.89	15.6	UNS	ONS	ONS	31.9	253	
1230R								
***** C H E M I S T R Y *****								
NA	K	CL	CU2	UREA-N	CREAT	BALANCE		
135-145	3.5-5.0	95-105	24-32	10-20	.7-1.4	.7-20		
MEQ/L	MEQ/L	MEQ/L	MMOL/L	MG/DL	MG/DL	MEQ/L		
MAR 17 142	4.4	109	22	15	.9	11		
1230R								
T-PROT	ALB	CA	PO4	CHOL	GLUC	UREA-N	URIC	
6.0-8.0	3.5-5.0	8.5-10.5	2.5-4.5	130-315	65-110	10-20	2.5-8.0	
G/DL	G/DL	MG/DL	MG/DL	MG/DL	MG/DL	MG/DL	MG/DL	
MAR 17 7.6	4.8	8.6	3.2	160	74	14	7.8	
1230R								
LDH-T	SGOT	BILI-T	ALK-P					
100-225	7.5-40.0	.26-1.00	30-115					
IU/L	IU/L	MG/DL	IU/L					
MAR 17 190	40	2.04	70					
1230R								

NEG NEGATIVE

UNIVERSITY OF IOWA HOSPITALS AND CLINICS
END OF REPORT

0011

102 PG

LOADING STUDY

Name _____ KC _____ Date 3-7-79
Compound Administered D.J-CRS Time _____
Amount (gms) _____ Body Weight _____

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0745
15 minutes	0820
30 minutes	0815
45 minutes	0830
60 minutes	0845
90 minutes	0915
120 minutes	0945
150 minutes	1015
180 minutes	1045
240 minutes	1145

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME KC DATE 3-7-77

TEST MATERIAL Orange Juice - Allii-Summa DOSE

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting	9:10 Nausea	10:10	10:15
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): 			

Note dose administered at 0745 AM. Symptoms reported
approximately 85 minutes after dose. fill

LOADING STUDY

Name KC Date 02-17-79

Compound Administered DJ/ASD/SC/1.5-1000 Time 0755

Amount (gms) 303 ml CT Body Weight

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0755
15 minutes	0810
30 minutes	0825
45 minutes	0840
60 minutes	0855
90 minutes	0925
120 minutes	0955
150 minutes	1025
180 minutes	1055
240 minutes	1155

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____ KC _____ DATE 3 11-77
 TEST MATERIAL _____ DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in _____ (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in _____ (indicate part of body)			
Weakness			
Others (specify): _____ _____			

Project entitled "Aspartame Ingestion in Subjects Who React to MSG"
Dialogue With Human Volunteers

We wish to study subjects who have some reaction to the amino acid, glutamate, when given a test meal of the dipeptide aspartame. The control substance will be sucrose, given in an amount to produce a similar level of sweetness.

This is a cross-over type of experiment in which you go through the procedure twice. On one occasion you receive the beverage with sucrose (1 gm/kg), and on the other occasion you receive the beverage with aspartame (34 mg/kg).

The study will be carried out in the Pediatric Outpatient Clinic. You will be asked to report there at 0730 hours, having fasted from midnight. Prior to drinking the beverage, a 20 gauge needle will be placed in the forearm vein so as to allow repeated blood samples to be obtained without repeated venipuncture. Two or 3 cc of a dilute heparin solution will be instilled into the needle between the removal of blood samples to prevent clotting. Blood samples 5 ml in volume will be obtained at 0, 15, 30, 45, 60, 90, 120, 150, 180 and 240 minutes after drinking the beverage. Less than 3 ozs. of blood will be obtained over a period of 4 hours.

A brief medical history and physical examination will be carried out on each subject. Each participant will receive a urinalysis and a SMA 12/60, 6/60. All women will provide an a.m. urine specimen for pregnancy testing. Each participant will be asked to forego alcohol and other drugs for a period of 24 hours prior to testing.

Discomforts attendant to the project will be that of hunger, since food will be restricted for other than the test beverage to be provided at 0800 hours. The other discomfort is that associated with venipuncture, which should be limited to one such procedure. Confinement to the test area during the time of blood withdrawal and associated boredom will be a source of annoyance.

You are obviously free to withdraw from the project at any time without prejudice. Since the design of the project calls for establishing the response of each subject to two test meals, you will be paid \$100 at the completion of the total study. Since failure to complete the two parts of the study invalidates the use of any one subject, withdrawal prior to completion of the study design will result in only partial payment of the allocated fee (\$50 per study date).

There are no identifiable benefits to you; however, these studies will permit us to establish what influence if any the administration of a dipeptide has on the plasma aminogram when given in conjunction with a beverage.

I have discussed the above points with the subject or his legally authorized representative using a translator if necessary. It is my opinion that the subject understands the risks, benefits, and obligations involved in participation in this project.

P. H. H. H.
Investigator

2/17/79

108

SCREENING HEALTH QUESTIONNAIRE
(CLINICAL STUDIES - NORMAL SURVEY)

Name CR

Date 1/1/77

Sex M

Birthdate 6/24/65

Place a check in front of each item if any relative has had the following:

Indicate relationship after each item using these code letters

Mother - M

Father - F

Aunt - A

Uncle - U

Brother - B

Sister - S

<input checked="" type="checkbox"/> Allergies	<u>B, S</u>	<input type="checkbox"/> Tuberculosis	<u> </u>
<input checked="" type="checkbox"/> Asthma or Hay Fever	<u>B</u>	<input type="checkbox"/> Gout	<u> </u>
<input type="checkbox"/> Anemia	<u> </u>	<input type="checkbox"/> Heart Trouble	<u> </u>
<input checked="" type="checkbox"/> Cancer or Tumor	<u>F</u>	<input type="checkbox"/> Stroke	<u> </u>
<input type="checkbox"/> Diabetes	<u> </u>	<input type="checkbox"/> High Blood Pressure	<u> </u>
<input type="checkbox"/> Bleeding Problem	<u> </u>	<input type="checkbox"/> Kidney Trouble	<u> </u>
<input type="checkbox"/> Epilepsy (Convulsions)	<u> </u>	<input checked="" type="checkbox"/> Arthritis	<u>F</u>
<input type="checkbox"/> Glaucoma	<u> </u>	<input checked="" type="checkbox"/> Ulcer	<u>F</u>

Place a check in front of each item if you now have or have ever had any of the following:

<input type="checkbox"/> Diabetes	<input type="checkbox"/> Arthritis	<input type="checkbox"/> Yellow Jaundice
<input checked="" type="checkbox"/> Hives or Skin Rashes	<input type="checkbox"/> High Blood Pressure	<input type="checkbox"/> Malaria
<input type="checkbox"/> Chest Disease	<input type="checkbox"/> Gout	<input type="checkbox"/> Venereal Disease
<input type="checkbox"/> Eye Disease	<input checked="" type="checkbox"/> Asthma or Hay Fever	<input type="checkbox"/> Polio
<input type="checkbox"/> Liver Disease	<input type="checkbox"/> Pancreatitis	<input checked="" type="checkbox"/> Dental Problems
<input type="checkbox"/> Neuralgia or Neuritis	<input type="checkbox"/> Thyroid Disease	<input checked="" type="checkbox"/> Tuberculosis
<input type="checkbox"/> Any Serious Accidents	<input type="checkbox"/> Rheumatic Fever	<input type="checkbox"/> Kidney Trouble
<input checked="" type="checkbox"/> Any Surgery	<input type="checkbox"/> Scarlet Fever	<input type="checkbox"/> Cancer or Tumor
<input checked="" type="checkbox"/> Hospitalizations	<input checked="" type="checkbox"/> Pneumonia	<input type="checkbox"/> Stroke
<input type="checkbox"/> Heart Trouble	<input type="checkbox"/> Anemia	<input type="checkbox"/> Menstrual Disorders
<input type="checkbox"/> Mononucleosis		

List Any Other Illness Dieted Ulcer

If you have checked any of the above spaces or listed any other illness, please record below:

Illness or Operation	Month and Yr.	Hospitalized	If yes, how long?
<u>Tonsillectomy</u>	<u>1/1951</u>	Yes <u> </u> No <input checked="" type="checkbox"/>	mos. <u> </u> wks. <u> </u> d. <u> </u>
<u>Appendicitis</u>	<u>10/75</u>	Yes <input checked="" type="checkbox"/> No <u> </u>	mos. <u> </u> wks. <u> </u> d. <u> </u>
<u>"</u>	<u>9/68</u>	Yes <input checked="" type="checkbox"/> No <u> </u>	mos. <u> </u> wks. <u> </u> d. <u> </u>
<u>"</u>	<u>1/56</u>	Yes <input checked="" type="checkbox"/> No <u> </u>	mos. <u> </u> wks. <u> </u> d. <u> </u>
<u>Tuberculosis</u>	<u>1/56</u>	Yes <input checked="" type="checkbox"/> No <u> </u>	mos. <u> </u> wks. <u> </u> d. <u> </u>
<u>Dieted Ulcer</u>	<u>3/72</u>	Yes <input checked="" type="checkbox"/> No <u> </u>	mos. <u> </u> wks. <u> </u> d. <u> </u>

SCREENING HEALTH QUESTIONNAIRE

CHECK THE APPROPRIATE SPACE FOR EACH OF THE FOLLOWING QUESTIONS:

Do you or have you ever had:

Yes	No	Yes
<input type="checkbox"/> Frequent Eye Infections	<input type="checkbox"/>	<input type="checkbox"/> Soaking Night Sweats
<input type="checkbox"/> Double Vision	<input type="checkbox"/>	<input type="checkbox"/> Tightness in Your Chest
<input type="checkbox"/> Blurred Vision	<input type="checkbox"/>	<input type="checkbox"/> Abnormal EKG (Electrocardiogram)
<input type="checkbox"/> Pain in the Eyes	<input type="checkbox"/>	<input type="checkbox"/> Fluttering of Heart
<input type="checkbox"/> Glaucoma	<input type="checkbox"/>	<input type="checkbox"/> Frequent diarrhea
<input type="checkbox"/> Cataracts	<input type="checkbox"/>	<input type="checkbox"/> Frequent Constipation
<input type="checkbox"/> Poor Vision	<input type="checkbox"/>	<input type="checkbox"/> Blood in Your Stools
<input type="checkbox"/> Frequent Earaches	<input type="checkbox"/>	<input type="checkbox"/> Black or Tarry Stools
<input type="checkbox"/> Ringing in Ears	<input type="checkbox"/>	<input type="checkbox"/> Difficulty in Swallowing
<input type="checkbox"/> Frequent Nosebleeds	<input type="checkbox"/>	<input type="checkbox"/> Frequent Heartburn or Indigestion
<input type="checkbox"/> Frequent Headaches	<input type="checkbox"/>	<input checked="" type="checkbox"/> Pain or Stiffness in Your Joints
<input checked="" type="checkbox"/> Shortness of Breath	<input type="checkbox"/>	<input type="checkbox"/> Pain or Burning on Urination
<input checked="" type="checkbox"/> Difficulty in Lying Flat at Night	<input type="checkbox"/>	<input type="checkbox"/> Difficulty with Urinary Stream
<input checked="" type="checkbox"/> Cough or Wheezing	<input type="checkbox"/>	<input type="checkbox"/> Increased Frequency of Urination
<input type="checkbox"/> Fainting or Dizziness	<input type="checkbox"/>	<input type="checkbox"/> Blood in Your Urine

SCREENING HEALTH QUESTIONNAIRE

Please answer the following:

Are you currently taking or have you taken within the last 4 months:

YES

NO

☐ Birth Control Pills
☒ Aspirin
☐ Antibiotics
☐ Mineral Oil
☐ Tranquillizers
☐ Laxatives
☐ Vitam
☐ Sleeping Medicine
☐ Sulfas
☐ Thyroid Med
☐ Estrogens
☒ Cold or Cough Medicines
☐ Anti-Coagulants
☐ Weight Control Medicines

Occasional cold

If you checked "Yes" for any of the above medicines please list names, doses (if known) and duration of therapy.

Aspirin Dose 10 mg Duration PRN/cold
Pseudoed Dose 2 tablets Duration PRN/cold
 _____ Dose _____ Duration _____
 _____ Dose _____ Duration _____

Please indicate approximate weekly intake for following:

Liquor 0 Drinks/Wk.
 Beer 12 Cans or Bottles/Wk.
 Wine 0 Glasses/Wk.
 Cigarettes 0 Day

Date of Examination 2-22-76

Race Cauc

Name CR

Age 13

Sex M

Weight 141

Pulse 64

Respiration 18

Blood Pressure 120/60

RAS

1. General N
2. Skin N
3. Eyes N
4. Ears N
5. Nose N
6. Mouth N
7. Throat N
8. Neck N
9. Chest and Lungs N
10. Heart N
11. Abdomen N
12. Genitalia N
13. Lymphatic N
14. Vascular N
15. Locomotion N
16. Extremities N
17. Neurological N

Larry Baker
Physician's Signature

112

2/23/1979 2226 HK

L. L. COMY

P# : 51500

DR: NP

MS: PFS

NAME: CR

DOB: 1/01/1956 SEX: M

ROOM: PEDS

17

***** H E M A T O L O G Y *****

WBC	RBC	Hb	HCT	MCV	MCHC	MCH	PLT
4.3-11.6	4.7-6.1	14.2-18.0	42-54	82-97	32-36	27-32	150-400
K/MM3	MIL/MM3	G/DL	CH.MICR	G/DL	PICO-G	K/MM3	
FEB 22 5.4	4.71	14.4	41.6	88	34.6	30.5	239
1500R							

***** C H E M I S T R Y *****

NA	K	CL	CO2	UREA-N	CREAT	BALANCE	
135-145	3.5-5.0	95-105	24-32	10-20	.7-1.4	7-20	
MEQ/L	MEQ/L	MEQ/L	MMOL/L	MG/DL	MG/DL	MEQ/L	
FEB 22 143	4.1	105	28	20	1.0	10	
1500R							

T-PROT	ALB	CA	PO4	CHOL	GLUC	UREA-N	URIC
6.0-8.0	3.5-5.0	8.5-10.5	2.5-4.5	130-315	65-110	10-20	2.5-8.0
G/DL	G/DL	MG/DL	MG/DL	MG/DL	MG/DL	MG/DL	MG/DL
FEB 22 6.8	4.4	8.8	4.0	180	80	20	6.2
1500R							

LDH-T	SGOT	BILI-T	ALK-P				
100-225	7.5-40.0	0.26-1.00	30-115				
IU/L	IU/L	MG/DL	IU/L				
FEB 22 180	24	.4	50				
1500R							

LOADING STUDY

Name CR Date 2-17-79

Compound Administered APIN-SUCROSE - CJ Time

Amount (gms) Body Weight

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0912✓
15 minutes	0827✓
30 minutes	0842✓
45 minutes	0857 0908✓
60 minutes	0912✓
90 minutes	0942 0952
120 minutes	1012✓
150 minutes	1142✓
180 minutes	1112✓
240 minutes	1212

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____ CR _____

DATE 2-17-79

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

Dr. Decker

C.D.R.

LOADING STUDY

Name _____ CR _____ Date 03-03-79

Compound Administered 0.5 Sucrose / AM Time 0755

Amount (gms) _____ Body Weight _____

BLOOD SAMPLES FOR AMINO ACID ANALYSIS

TIME

INTERVAL

Baseline	0753
15 minutes	0810
30 minutes	0825
45 minutes	0840
60 minutes	0855
90 minutes	0925
120 minutes	0955
150 minutes	1025
180 minutes	1055
240 minutes	1155

SPECIAL INDIVIDUAL QUESTIONNAIRE

NAME _____ CR _____

DATE 2-3-74

TEST MATERIAL _____

DOSE _____

SYMPTOM	SYMPTOM START (time)	SYMPTOM MOSTLY GONE (time)	SYMPTOM TOTALLY GONE (time)
Abdominal cramps			
Burning sensation in face or chest			
Chest Pain			
Diarrhea			
Dizziness or Light-headedness			
Flushing sensation in face or chest			
Headache			
"Heartburn"			
Nausea or vomiting			
Numbness or loss of feeling in (indicate part of body)			
Palpitation			
Unusual perspiration or sweating			
Unusual thirst			
Tight sensation around face, neck, or chest			
Tingling in (indicate part of body)			
Weakness			
Others (specify): _____ _____			

No reaction

C.A.R.