

122-1

[REDACTED]
TO: TSS/OC

1. Date of Obligation: N/A

2. Purpose of Project: To support study

of [REDACTED]

[REDACTED] Univ. of [REDACTED]

[REDACTED]

3. Progress to Date: Satisfactory

4. Expiration Date: N/A

5. Project Monitor: [REDACTED]

FROM: TSS/CD

Room: [REDACTED]

[REDACTED]

100-2

INFORM CENTER AREA

EXHIBIT Subject

At Date of Original Authorization	Period Covered	Time Extended To	Allotment Number	Amount of Obligation
9 Sept 1960			1505-109-1902	2,000

Additional Authorizations	Period Covered	Time Extended To	Allotment Number	Amount of Obligation

Invoice Number	Date	Amount	Balance
41	19 Sept 1960	2,000	-0-

REMARKS:

172-3

Project NKULTRA 122

Purpose: To develop a technique for the preparation and characterization of purified Neurokinin. This study is closely related to the work of [REDACTED] C

Initiated: September 1960. B

Contractor: [REDACTED] as a grantee of [REDACTED]

Cost: \$2,000.00 C

Status: Unknown.

122-4

March 21, 1963

Memorandum to: [REDACTED]

A

Subject:

Finances

Attached is an accounting of [REDACTED] one of the ones they are waiting for.

C

C

[REDACTED]

127-4

March 21, 1963

Accounting from [redacted]

Received from [redacted]

\$2,000.00

Expenditures:

- 1. Materials imported from [redacted]
 - 2 Kymographys [redacted] with drums of 6 and 12 in.
 - 2 infusion pump [redacted]
 - 1 kymograph [redacted] with 6 in drum
 - 1 time maker record [redacted]

\$ 896.91

- 2. Material purchased with [redacted] Money

Exchange [redacted] \$90 [redacted]
\$203.09 [redacted]

\$1,103.09

Using an average rate of [redacted] the following were purchased at the approximate \$ value of

- 1 Deep freezer [redacted] 325.00
- 1 Tonometer of [redacted] 21.00
- 1 tape record with accessories 120.00
- 1 oxigenator for water bath 7.00
- 1 oven and surgical material and syringes 117.00
- drugs 64.00
- Physiological material:
 - Levers, cannules, mercury manometers from IBRCC 212.00
 - 1 balance (to 0.1g) 67.00
 - Picture rolls 25.00
 - Paper cutter 26.00
 - Mercury 23.00
 - Surgical material 57.00
 - Animals (cats, fowls, rabbits and dogs) 32.00
 - Food for animals 7.09

\$2,000.00

This is a true statement of expenditures as reported to the fund.

I certify that services or materials have been satisfactorily received and the expenditures were incurred on official business.

[redacted signature] A
Date: 3/22/63

[REDACTED]
(When Filled In)

198-5

No. 545

Cost Account 1125-1089-1982

Object Class _____

Date	Remarks and References	Obligations Incurred	Obligations Liquidated	Unliquidated Balance
19 SEP 1960	Michigan - Sub 122 Contd.	2,000.00		2,000.00
29 SEP 1960	Inv #1		2,000.00	—

[REDACTED]
(When Filled In)

122-6

9 September 1960

MEMORANDUM FOR: COMPTROLLER
ATTENTION : FINANCE DIVISION
SUBJECT : MKULTRA, Subproject 122

Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 120 has been approved and \$2,000 of the over-all MKULTRA project funds has been obligated to cover the subproject's expenses. This obligation of funds should be charged to Allotment 1525-1009-1902.

A [REDACTED]

Chief
TSD/Research Branch

APPROVED FOR OBLIGATION OF FUNDS:

[REDACTED] A
Research Director

I CERTIFY THAT FUNDS ARE AVAILABLE;
OBLIGATION REFERENCE No. 545
CHARGE TO ALLOTMENT No. 1525-1009-1902

19 SEP 1960

AUTHORIZING OFFICER

Date _____

Distribution:

Orig & 2 - Addressee

- 1 - TSD/OC
- 1 - TSD/RB

✓ 154/MS

[REDACTED]

INSTRUCTIONS

1. If funds, in the form of other than U.S. Dollars were on hand, received, or disbursed during the accounting period, all pertinent data, i.e., rate, method of acquisition, etc., must be shown. If advances have been made to third parties, enter the total of such advances outstanding at the beginning of the accounting period on line 1a.
2. If more space is required to explain receipts, prepare receipt form, number and attach hereto. In every case, completely identify the source of receipts.
3. Attach a voucher for each expenditure and assign a number thereto in numerical sequence. The voucher may be the receipt obtained from the payee. When a receipt is not obtained, prepare a certificate and attach as a voucher. When space on form is not sufficient to list all vouchers, prepare a listing on a separate sheet and enter the total under item 3. If advances to third parties are outstanding at the close of the accounting period, attach an itemized list and enter the total on line 3a.
4. Final credit will not be given for disbursements which are advances to be accounted for. When accounting for advances are obtained, list as expenditures or refund of cash, as appropriate.
5. Total receipts entered on the line "Total to Account For" must agree with the total disbursements entered on the line following "Total Accounted For."

6-22-9

(When Filled In)

CONFIDENTIAL FUNDS POSTING VOUCHER

VOUCHER NO. 7-12	DATE 2-6			VOUCHER NO. 7-12			71-60 AMOUNT		
	28-33	34-39	40-42	45-46	47-52	54-57		59-67	68-70
DESCRIPTION ADVANCE ACCOUNTS 13-27	STATION CODE	EXPEND PER. CODE	OBLIG. REF. NO.	GENERAL LEDGER ACCT. NO.	ALLOT. LEDGER ACCT. NO.	DUE DATE	DEBIT	CREDIT	
SUBPRADT. 1744 AMN	8811	545	6010	25-1029-19027.52	2000.00				
AGRICULTURA									
(TSS - 57) SEP 20 1960									
EXPLANATION OF ENTRY							TOTALS	2000.00	2000.00

All attached

DATE: 2/19/60 PREPARED BY: [Redacted] REVIEWED BY: [Redacted] DATE: 9/27/60 CERTIFIED FOR PAYMENT OR CREDIT: [Redacted] SIGNATURE: [Redacted]

FORM 2-58 606 USE PREVIOUS EDITIONS. (10-48)

A

A

122-10

19 September 1960

MEMORANDUM FOR: THE RECORD

VIA : TSD/Budget Officer

SUBJECT : HUIJERA, Subproject 122, Invoice #1
Allotment 1125-1009-1902

1. Invoice No. 1 is attached covering the above subproject. Payment should be made as follows:

Cashier's check in the amount of \$2,000.00
drawn on [redacted] payable to [redacted]

B

2. The check should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than Monday, 3 October 1960.

3. This is a final invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

A

[redacted]

Chief
TSD/Research Branch

Attached:
Invoice & Certifications [redacted] IN THE AMOUNT OF \$2,002.00

RECEIVED

Distribution:
Orig & 2 - Addressee

[redacted]

> 1 - TSD/PASS

A

5/5

[redacted]

INSTRUCTIONS

1. If funds, in the form of other than U.S. Dollars were on hand, received, or disbursed during the accounting period, all pertinent data, i.e., rate, method of acquisition, etc., must be shown. If advances have been made to third parties, enter the total of such advances outstanding at the beginning of the accounting period on line 1a.
2. If more space is required to explain receipts, prepare receipt form, number and attach hereto. In every case, completely identify the source of receipts.
3. Attach a voucher for each expenditure and assign a number thereto in numerical sequence. The voucher may be the receipt obtained from the payee. When a receipt is not obtained, prepare a certificate and attach as a voucher. When space on form is not sufficient to list all vouchers, prepare a listing on a separate sheet and enter the total under item 3. If advances to third parties are outstanding at the close of the accounting period, attach an itemized list and enter the total on line 3a.
4. Final credit will not be given for disbursements which are advances to be accounted for. When accounting for advances are obtained, list as expenditures or refund of cash, as appropriate.
5. Total receipts entered on the line "Total to Account For" must agree with the total disbursements entered on the line following "Total Accounted For."

102-10

197-11

RECEIPT

Receipt is hereby acknowledged of the following check:

Treasurer's Check  ^E, dated September 28, 1960,
in the amount of \$2,000.00, drawn on the  ^E

payable to  ^E

^E

^E

^C

Date: 10-5-60

122-12

19 September 1960

MEMORANDUM FOR: THE RECORD

VIA : TSD/Budget Officer

SUBJECT : MINIRA, Subproject #122, Invoice #1
Allotment 1125-1009-1960

1. Invoice No. 1 is attached covering the above subproject. Payment should be made as follows:

Cashier's check in the amount of \$2,000.00,
drawn on a local bank, payable to

[Redacted Name] **B**

2. The check should be forwarded to Chief, TSD/Research Branch, through TSD/Budget Officer, no later than Monday, 3 October 1960.

3. This is a fiscal invoice. However, since it is anticipated that additional funds will be obligated for this project, the files should not be closed.

[Redacted Signature]

Chief
TSD/Research Branch **A**

Attached:
Invoice & Certifications

Distribution:
Orig & 2 - Addressee

1 - TSD/FASS

> 2 - TSD/RB

TSD [Redacted] 19 Sept. (0)

A

[Redacted]

122-12

INVOICE

For Services

\$2,000.00

8



CERTIFICATIONS

(1) It is hereby certified that this is Invoice No. 1 applying to Subproject No. 122 of KOUJRA, that performance is satisfactory, that services are being accomplished in accordance with mutual agreements, that a detailed agenda of the payments and receipts is on file in TSD/EB, that this bill is just and correct and that payment thereof has not yet been made.

Chief, TSD/Research Branch

Date: _____

(2) It is hereby certified that this invoice applies to Subproject No. 122 of KOUJRA which was duly approved, and that the project is being carried out in accordance with the memorandum of 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda.

Research Director

Date: _____



122-13

9 September 1960

MEMORANDUM FOR: CONTROLLER
ATTENTION : Finance Division
SUBJECT : KULTRA, Subproject 122

Under the authority granted in the memorandum dated 13 April 1953 from the DCI to the DD/A, and the extension of this authority in subsequent memoranda, Subproject 122 has been approved and \$2,000 of the over-all KULTRA project funds has been obligated to cover the subproject's expenses. This obligation of funds should be charged to Allotment 1525-1009-1902.

A [REDACTED]

Chief
TSD/Research Branch

APPROVED FOR OBLIGATION OF FUNDS:

Research Director

Date _____

122-14

DRAFT
9 September 1960

A

MEMORANDUM FOR: THE RECORD

SUBJECT: Project MKULTRA, Subproject 122

F

1. It is requested that Subproject 122 be approved to support in part the research project of [redacted] University [redacted] in the [redacted] [redacted] in accordance with the attached proposal.

B

C

2. Neurokinin is almost certainly a major mediator in the human "stress" reaction. Its nature and function are not well understood. Purification and chemical characterization are a necessary preliminary to exploring its biological function. [redacted] has until recently been associated with [redacted] research program dealing with human stress reactions at [redacted]

B

Success by [redacted] in the present study could support materially [redacted] project, MKULTRA, Subproject 61.

A

3. [redacted] has been briefed fully on this project. 4. This project will be funded through the [redacted]

B

B

[redacted] for security and cover purposes. The accounting for funds expended shall conform to the established procedures of that organization. Title to any permanent equipment shall remain with [redacted] University in lieu of overhead charges.

5. The total cost of this project for a period of one year is estimated to be \$2,000 as indicated in the attached budget. Charges

[redacted]

[redacted]

122-1

122-14

[REDACTED]

should be made against Allotment Number 1525-1009-1902. .

6. No cleared or witting persons are concerned with the conduct of this project.

Jedyn P. [unclear]

[REDACTED]

A

Chief
TSD/Research Branch

APPROVED FOR OBLIGATION OF FUNDS:

A

[REDACTED]
Research Director

Date 9/17/60

Attachment:
Proposal

Distribution:
Original Only

A

[REDACTED]

[REDACTED]

122-1

122-15

August 15, 1960

MEMORANDUM TO: [REDACTED] A

SUBJECT: Project Proposal entitled: [REDACTED] Principal Investigator: [REDACTED]

This proposal has been circulated to [REDACTED] and [REDACTED]. All comments appear favorable, particularly those of [REDACTED] who is a professor of pharmacology at the [REDACTED]. It would appear from his evaluation that this research could constitute a fine scientific contribution. [REDACTED] as you may know, has worked with [REDACTED] here at [REDACTED] and recently returned to [REDACTED].

My only comments are: 1) I do not feel personally able to judge the significance of the research except from a general point of view and, from that standpoint, it appears to be very important; and 2) my only other reaction is the same as is the observation by [REDACTED] which questions the immediate relevance of this proposal to the field of [REDACTED]. If this observation can be rationalized, then I would feel that the positive comments of the Directors and Advisers can lead only to recommendation for approval to support this project.

[REDACTED]

Program Director

Enc: 2 copies of Proposal

128-15

May 1, 1960.

[REDACTED]

B

Dear Sirs:

B

I have enclosed a proposal for consideration by the [REDACTED] for support for a series of studies concerned with Neurokinin, a substance that appears to be of great importance in the pathological mechanisms by which man's relationship to his environment influences health.

Sincerely yours,

C [REDACTED]

Discussed but
no comment.

122-15

PROPOSAL

1. Title: [REDACTED] ^c
Author: [REDACTED] ^{B/E}
Institution: Department of Pharmacology, University of [REDACTED]

The central nervous system evokes, integrates, and modulates the body's adaptive responses to the environment. These responses, necessary to survival when appropriate, are implicated in the etiology and course of disease of many categories when inappropriate. It is well established that reactivity to noxious stimulation can be modulated by the central nervous system through control of the timing and amount of adrenal cortical stimulating hormone (ACTH) from the pituitary gland. Recent experiments at the [REDACTED] have shown that another major route for central nervous system modulation of the inflammatory response exists. This latter route is through vasomotor control and through modification of the magnitude of local, neuronal reflexes. A potent vasodilator substance is implicated in these reactions.

The applicant has been one of the [REDACTED] who has defined ^c this biochemical substance as neurokinin. Neurokinin apparently is a vasodilator polypeptide formed by the splitting of a protein (globulin) present in extracellular fluid. This splitting is due to the action of a proteolytic enzyme (neurokinin forming enzyme), possibly an intraneuronal protease. The same enzyme has been observed

in the cerebrospinal fluid and in perfusate of the cerebral ventricle during stimulation of the brain, thus giving a source of the material for study. A crude preparation of powdered neurokinin has been prepared by incubation of globulin with cerebrospinal fluid collected from patients with schizophrenia, which contains large amounts of neurokinin-forming enzyme. The application has worked with [redacted] and [redacted] in the definition of this agent and in the preparation of crude neurokinin.

e) Immediate Objectives.

To prepare and characterize highly purified neurokinin by chromatographic chemical methods.

f) Long Range Objectives

To define the pharmacologic properties, and contribute to understanding of the physiological and pathological significance of neurokinin.

II. Methods

a) Obtain neurokinin forming enzyme from human cerebrospinal fluid and from perfusate of cerebral ventricles of laboratory animals during stimulation of the brain.

b) Preparation of crude neurokinin by incubation of cerebrospinal fluid with globulin, precipitation, and extraction with alcohol.

c) Purification of the crude preparation by paper and column chromatographic separation of the components in the crude preparation.

d) Pharmacologic studies to identify the active fraction

- a. isolated rat uterus, rat duodenum bioassay and assay of depressor action on the blood pressure.

e) Pharmacologic characterization of the properties of purified neurokinin.

1) Electroencephalographic changes induced by intraventricular and intercarotid injection in the cat.

2) Behavioral changes induced by intraventricular injections of neurokinin into unanesthetized cats with implanted intraventricular cannulae.

III. It is expected that these studies will require one year to complete.

IV. Budget

a) Apparatus to augment equipment available in the [REDACTED]

[REDACTED]

F/B

1) Stereotoxic (Horsely Clark) apparatus for perfusion of cerebral ventricles and for placement of intraventricular cannulae \$900.00

2) Perfusion pump 200.00

3) Small polyethylene Tubing 50.00

4) Recording kymograph for smooth muscle bioassay 250.00

5) Miscellaneous equipment, manometer, clamps, cannulae 100.00

b) Drugs and supplies for electrophoresis and for pharmacologic studies 300.00

c) Animals, animal food, and cages 200.00

TOTAL \$2,000.00

V.

The author is [REDACTED] LF

[REDACTED] is a tax exempt organization of the [REDACTED] F

F/B [REDACTED] The author is engaged in full time research and teaching. He has worked as a professional [REDACTED] for [REDACTED] years and has worked specifically with vasodilator polypeptides with [REDACTED]. He has recently completed a [REDACTED] fellowship with [REDACTED] at [REDACTED] working with neurokinin and becoming acquainted with the point of view of the [REDACTED] program. B

VI and VII:

This project has not been undertaken previously and no support has been or is being requested of other foundations.

PROPOSAL

1. Title: [REDACTED] C
 Author: [REDACTED] B/E
 Institution: [REDACTED]

The central nervous system evokes, integrates, and modulates the body's adaptive responses to the environment. These responses, necessary to survival when appropriate, are implicated in the etiology and course of disease of many categories when inappropriate. It is well established that reactivity to noxious stimulation can be modulated by the central nervous system through control of the timing and amount of adrenal cortical stimulating hormone (ACTH) from the pituitary gland. Recent experiments at the [REDACTED] have shown that another major route for central nervous system modulation of the inflammatory response exists. This latter route is through vasomotor control and through modification of the magnitude of local, neuronal reflexes. A potent vasodilator substance is implicated in these reactions.

The applicant has been one of the investigators who has defined this biochemical substance as neurokinin. Neurokinin apparently is a vasodilator polypeptide formed by the splitting of a protein (globulin) present in extracellular fluid. This splitting is due to the action of a proteolytic enzyme (neurokinin forming enzyme), possibly an intraneuronal protease. The same enzyme has been observed

in the cerebrospinal fluid and in perfusate of the cerebral ventricle during stimulation of the brain, thus giving a source of the material for study. A crude preparation of powdered neurokinin has been prepared by incubation of globulin with cerebrospinal fluid collected from patients with schizophrenia, which contains large amounts of neurokinin-forming enzyme. The application has worked with [redacted] and [redacted] in the definition of this agent and in the preparation of crude neurokinin.

e) Immediate Objectives

To prepare and characterize highly purified neurokinin by chromatographic chemical methods.

f) Long Range Objectives

To define the pharmacologic properties, and contribute to understanding of the physiological and pathological significance of neurokinin.

II. Methods

- a) Obtain neurokinin forming enzyme from human cerebrospinal fluid and from perfusate of cerebral ventricles of laboratory animals during stimulation of the brain.
- b) Preparation of crude neurokinin by incubation of cerebrospinal fluid with globulin, precipitation, and extraction with alcohol.
- c) Purification of the crude preparation by paper and column chromatographic separation of the components in the crude preparation.
- d) Pharmacologic studies to identify the active fraction
 - a. isolated rat uterus, rat duodenum bioassay and assay of depressor action on the blood pressure.

122.5

e) Pharmacologic characterization of the properties of purified neurokinin.

1) Electroencephalographic changes induced by intraventricular and intercarotid injection in the cat.

2) Behavioral changes induced by intraventricular injections of neurokinin into unanesthetized cats with implanted intraventricular cannulae.

III. It is expected that these studies will require one year to complete.

IV. Budget

a) Apparatus to augment equipment available in the [REDACTED]

[REDACTED]

F/B

B/F

1) Stereotoxic (Horsely Clark) apparatus for perfusion of cerebral ventricles and for placement of intraventricular cannulae	\$ 900.00
2) Perfusion pump	200.00
3) Small polyethylene Tubing	50.00
4) Recording kymograph for smooth muscle bioassay	250.00
5) Miscellaneous equipment, manometer, clamps, cannulae	100.00
b) Drugs and supplies for electrophoresis and for pharmacologic studies	300.00
c) Animals, animal food, and cages	200.00
TOTAL	<u>\$2,000.00</u>

172-15

V.

The author is [REDACTED] C/B/F

F/B

[REDACTED] is a tax exempt organization of the State

F

The author is engaged in full time research and teaching. He has worked as

a professional [REDACTED] for [REDACTED] years and has worked specifically with vasodilator

polypeptides with [REDACTED]. He has recently completed a [REDACTED]

fellowship with [REDACTED] of The [REDACTED] working with neurokinin

and becoming acquainted with the point of view of the [REDACTED] program.

B

VI and VII:

This project has not been undertaken previously and no support has been or is being requested of other foundations.

26 August 1960

102-16

MEMORANDUM FOR: THE RECORD

SUBJECT : Approval of Dr. [redacted] Proposal

ATTENDANCE : Drs. [redacted] Gottlieb [redacted]

SUMMARY: Request for \$2000.00 to provide equipment and supplies for [redacted] study was approved. Neurokinin is presumed to be a major mediator in the "stress" reaction. Its nature and function are not well understood. Purification and chemical characterization is a necessary preliminary to exploring its biological function. This proposal has received the strong endorsement of [redacted]

B

2. The funding mechanism will be the [redacted] Title to permanent equipment will remain with the university of [redacted]

3. A name check of [redacted] proved negative. He will remain unwitting of true Sponsor [redacted]

A

TSD/Research Branch

Distribution:
Orig & 3 - Addressee
(TSD/RB)

Rec'd.

Fwd.

[redacted]	9/19
[redacted]	9/19/60
[redacted]	22 Sept
[redacted]	22 Sept 60

for File

A

422

182-17

23 August 1960

MEMORANDUM FOR: THE RECORD

SUBJECT : Discussion with [redacted] on [redacted] Proposal

1. At 1100 I met with Mr. [redacted] to brief him on the [redacted] proposal. [redacted] showed considerable interest in the [redacted] mechanism, its origin and its function (stemming in part from his participation in the old [redacted]). I assured him, in answer to his question, that arrangements could be made to approach grantees to undertake [redacted] missions. Further, if his division needed a funding mechanism with sound cover to promote any [redacted] that could be fitted into the cover, the [redacted] was available to help out.

2. Although [redacted] saw no immediate need, he was genuinely enthusiastic and wished to make division brass aware of the possibilities.

[redacted]

TSD/Research Branch

Distribution:
 Orig & 3 - Addressee
 (TSD/RB)

Rec'd.	Fwd.
[redacted]	9/11/60
8 Sept SG	1 [redacted]

[redacted]	20 Sept 1960
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for file

A