



## MEMORY ENHANCER AGENTS (NOOTROPICS)

MISHU

### Abstract

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**Corresponding Author**

Ms. Mishu

R.K.S.D. College of

Pharmacy,

Kaithal (Haryana)

[mishu.mishu515@gmail.co](mailto:mishu.mishu515@gmail.co)

[m](#)

Nootropic is derived from Greek words noos or “mind” and tropic means “to bend/turn”. They improve mental functions such as cognition, memory, intelligence, motivation, attention and concentration. They work by increasing brain oxygen, nerve growth, brain neurotransmitters, hormones, enzymes. . Unlike caffeine and amphetamine, nootropics only act within the brain, so they lack the discomfort and danger of stimulants. Some researches dubbed nootropics "Smart Drugs."

## INTRODUCTION

### IDEAL NOOTROPICS

Enhances learning, memory and resists agents impairing memory; neuroprotection against chemical and physical agents; absence of negative pharmacological effects.

### MECHANISM OF ACTION

Decrease platelet aggregation, increase cerebral blood flow and oxygen consumption. Increase adenylate cyclase-breakdown of ADP to ATP, increase density of frontal cortex ACH receptors by 30-40%.

### USES

Stroke, Alzheimer's disease, Schizophrenia, Clotting and coagulation disorders, ADHD.

### DRUGS

- 1) Plant derivative: Vinpocetin-increases blood flow in brain and improves over all cerebral inefficiency.
- 2) Traditional herbs: Bramhi, Ginkgo biloba, Shilajit.
- 3) Recreational drugs: Amphetamine, tetrahydrocannabinol, 4-methylaminorex, tobacco.

- 4) Race tam: Piracetam- increases communication between the left and right hemispheres of the brain and protects the brain from oxygen-deprived conditions.
- 5) Vitamins and supplements: Omega-3, Isoflavones, Vitamin D, Vitamin B
- 6) Stimulants: Amphetamine, Adrenergic, Cholinergic, Xanthenes
- 7) Dopaminergics: L-Depo, Dopamine agonist, MAO-inhibitors
- 8) GABA Blocker: Suritozole
- 9) Glutamate activator: IDRA-21 believed to improve memory by enhancing long term potentiating.
- 10) Dietary nootropes: hemp, fish, berries-good source of choline.
- 11) Direct hormones: pregnelone-neurogenesis, vasopressin-memory encoding and recall

### ADVERSE EFFECTS

Although nootropics are found have very few or no side effects but long use can cause insomnia, risk of addiction, influenza, diarrhoea, intense hyperactivity, headaches and heart palpations.

## LETTER

Nootropics, from the Greek "noos" for "mind" and "tropos" for "growing," are a set of compounds that act safely on the brain to improve focus, wakefulness, cognition, creativity, memory, and alertness; many protect brain cells from damage and help revitalize them. Unlike caffeine and amphetamine, nootropics only act within the brain, so they lack the discomfort and danger of stimulants. Some researches dubbed nootropics "Smart Drugs."

## LIST OF NOOTROPICS

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- 3) Recreational drugs: Amphetamine, tetrahydrocannabinol, 4-methylaminorex, tobacco.
- 4) Racetam: Piracetam- increases communication between the left and right hemispheres of the brain and protects the brain from oxygen-deprived conditions.

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- 6) Stimulants: Amphetamine, Adrenergic, Cholinergic, Xanthenes
- 7) Dopaminergics: L-Depo, Dopamine agonist, MAO-inhibitors
- 8) GABA Blocker: Suritazole-  $\alpha 5$  partial inverse agonist.
- 9) Glutamate activator: IDRA-21 believed to improve memory by enhancing long term potentiating.
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## MECHANISM OF ACTION

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- Increase cerebral blood flow and oxygen consumption.
- Increase adenylate cyclase-breakdown of ADP to ATP.
- Increase density of frontal cortex ACH receptors by 30-40%.

## USES

- Stroke
- Alzheimer's disease
- Schizophrenia

- Clotting and coagulation disorders
- ADHD
- Senile Dementia
- Intense hyperactivity
- Headaches
- Heart palpitations

#### **ADVERSE EFFECTS**

Nootropics have very few or no adverse effects but its prolonging use can cause adverse effects which are as following:

- Insomnia
- Risk of addiction
- Influenza
- Diarrhoea

#### *REFERENCES*

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