

## Nutrients, Supplements and Nutraceuticals that are observed to Improve Brain Performance

<b>Group</b>	<b>Compound</b>	<b>Derivation</b>	<b>Alternative Names</b>	<b>General Effect</b>	<b>Memory Rating</b>	
<b>Racetams</b>	Piracetam	2-oxo-1-pyrrolidine acetamide – is a cyclic derivative of the neurochemical GABA.	Nootropil, Nootropyl, Nooracetam	is a positive modulator for receptors of the acetylcholine neurotransmitter which plays a role in fluid intelligence and short-term working memory capacity ....popular	8	
	Aniracetam	(1(4-methoxybenzoyl)-2-pyrrolidinone) – is a derivative of Piracetam	Memotropil, Memodrin, Ampamet, Draganon, Referan	enhances memory and focus by activating Nicotinic Acetylcholine receptors in the brain. It also stimulates AMPA receptor sites which are implicated in learning as well as memory encoding processes	9	
	Oxiracetam	(RS)-2-(4-hydroxy-2-oxopyrrolidin-1-yl)acetamide –	is both a Racetam and an Ampakine -	It increases brain activity in cholinergic and glutamatergic pathways and exhibits some stimulant-like effects	9	
	Pramiracetam	N-[2-(diisopropylamino)ethyl]-2-(2-oxopyrrolidin-1-yl)acetamide	Pramistar	influences both Glutamate and Acetylcholine neuroreceptors and particularly increases reuptake at ACh receptor sites	8	
	Noopept	N-Phenylacetyl-L-prolylglycine ethyl ester -	Technically a neuropeptide	Noopept demonstrates very high affinity for ACh, AMPA and NDMA receptors that relate to short-term and long-term memory	9	
	Phenylpiracetam	(RS)-2-(2-oxo-4-phenylpyrrolidin-1-yl)acetamide	Carphedon, Phenotropil	It is a positive modulator of acetylcholine and glutamate synaptic receptors and may be able to increase the density of hippocampal NMDA receptors	8	
	Coluracetam	N-(2,3-dimethyl-5,6,7,8- tetrahydrofuro[2,3-b] quinolin-4-yl)-2- (2-oxopyrrolidin-1-yl)acetamide		works by increasing the uptake of choline into neurons which leads to an increase in acetylcholine levels and Cholinergic activity	8	
	Nefiracetam	N-(2,6-dimethylphenyl)-2-(2-oxopyrrolidin-1-yl)acetamide		believed to increase brain activity by potentiating excitatory neurotransmission through prolonging the opening of calcium channels	5	
	<b>Cholinergics</b>	Choline	2-hydroxy-N,N,N-trimethylethanaminium		Increasing choline intake by eating foods such as eggs, chicken, soy lecithin, wheat germ and cod fish may improve mental performance and prevent age-related cognitive	8
Alpha GPC		[(2S)-2,3-Dihydroxypropyl] 2-trimethylazaniumylethyl phosphate	Alpha Glycerylphosphorylcholine, Choline Alfoscerate, GPC Choline	has the highest bio-availability of the nootropic Choline supplements and readily crosses the blood-brain barrier	7	
Citicoline		5'-O-[hydroxy({hydroxy[2-(trimethylammonio)ethoxy] phosphoryl}oxy)phosphoryl]cytidine	CDP Choline, Cytidine Diphosphate Choline	Citicoline increases the availability of choline in the brain	7	
Centrophenoxine		2-Dimethylaminoethyl (4-chlorophenoxy)acetate	Lucidril, Meclofenoxate	Research suggests it may improve mood and ADHD via cholinergic, dopaminergic and serotonergic pathways	8	
Choline Citrate		is a supplemental combination of Choline with Citric Acid			8	
Choline Bitartrate		is a supplemental combination of Choline with Tartaric acid			5	
DMAE		(2-(Dimethylamino)ethanol)	Deanol, DMAE Bitartrate, Dimethylaminoethanol	DMAE is a direct pre-cursor for choline	6	
Lecithin		is a natural fat compound composed of phosphoric acid, choline, fatty acids, glycerol, glycolipids, triglycerides, and phospholipids.		is an effective memory-booster, and can provide neuro-protective benefits against degenerative disorders like dementia and Alzheimer's well into old age	4	
Phosphatidylcholine (PC)		is a hydrophobic lipid derived from Lecithin which incorporates choline, one of the B vitamins		helps promote the development of synapses between neurons and improves communication in both healthy and aging minds	6	
<b>Acetylcholinesterase Inhibitors</b>	Huperzine A	is an organic sesquiterpene alkaloid compound, found in Huperzia Serrate moss		prevents the breakdown of the key neurotransmitter acetylcholine in the synaptic cleft of the brain. The resulting raise in acetylcholine levels promotes better memory function	8	
	Huperzia Serrata	is a Southeast Asian fir moss plant which is the organic source of the alkaloid Huperzine A		improves short term memory function and long term memory formation, and can be a potent therapy for memory deficits that accompany age-related disorders like Alzheimer's disease	6	
	Galantamine	is a medicinal alkaloid which is derived from the leaves of the Galanthus Caucasius plant	Razadyne	user benefits include improved memory function, better reasoning ability, and enhanced reaction sensitivity to stimuli....it has shown promise as a therapy for and protection against the severe cognitive decline	8	
	Ginkgo Biloba	is an artifact to a long-past era in the history of the planet. The leaves of the Ginko tree produces bioactive leaves loaded with compounds which benefit human health, discovered by ancient Chinese medicine at least 1500 years ago		protects the amounts of acetylcholine in the brain...this neurotransmitter is responsible for a healthy, highly adaptable mental environment, allowing for the easy formation of new memories and enhanced reasoning abilities.	9	
<b>Ampakines</b>	Sunifiram	(1-benzoyl-4-propanoylpiperazine) is an AMPA agonist		activates AMPA receptors, firing synaptic growth and facilitating communication between neurons....this produces dramatic memory and learning effects	10	
	Unifiram	(alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid)		encourages strong communication between neurons by stimulating glutamate synaptic receptors. It also stimulates production of acetylcholine....higher levels of both glutamate and acetylcholine facilitate better brain health and improved signaling	9	
	Ampalex	(CX-516) is an Ampakine compound nootropic		able to cross the blood-brain barrier and stimulate AMPA receptors....these receptor sites control communication between neurons across synapses, -	8	
<b>GABAergics</b>	GABA	(short for Gamma-Aminobutyric Acid) is an essential amino acid derived from Vitamin B6 and Glutamate in the brain. GABA is an inhibitory neurotransmitter, which means it blocks the effects of other excitatory neurochemicals.		GABA binds to neurotransmitter receptor sites and prevents signaling of stress reactions. When consumed as an oral dietary supplement,.... GABA cannot cross the blood-brain barrier	4	

	Phenibut	(?-Phenyl-?-aminobutyric acid) is a derivative form of GABA,		fully bioavailable	6
	Picamilon	Picamilon (4-(Pyridine-3-carbonylamino)butanoic acid)	referred to as nicotinoyl-GABA	GABA is unable to cross the blood-brain barrier on its own, so this supplement incorporates bioavailable Niacin as an effective delivery device	6
<b>Dopaminergics</b>	Sulbutiamine	is a bioavailable lipophilic compound derived from twin molecules of Vitamin B1 (Thiamine)	Arcalion	it boosts cellular metabolism. It is a more potent variation of Vitamin B1, ...increases amount of Thiamine esters in the brain	8
	DL-Phenylalanine	(DPLA or 2-Amino-3-phenylpropanoic acid)		a non-polar amino acid which is the basis for protein production in the body	4
	Tyrosine	(4-hydroxyphenylalanine) is an organic amino acid produced in the human body		also contained in food sources like poultry, fish, nuts, dairy, avocados, and bananas...boosts efficiency of nerve transmissions	5
	Phenylethylamine	(2-phenylethylamine or PEA) is an organic monoamine alkaloid derived from the amino acid Phenylalanine		also found in chocolate.....stimulates production of acetylcholine	6
	L-Dopa	(L-3,4-dihydroxyphenylalanine) is an organic amino acid which occurs naturally in the human body		derived from L-Tyrosine through biosynthesis...can replenish important neurochemicals that dwindle with age	4
	Mucuna Pruriens,	also known as cowitch or the velvet bean, is a rainforest plant		has long been used as a staple of Ayurvedic medicine.....is a powerful antioxidant...a source of L-Dopa	4
	Theanine	(gamma-glutamylethylamide) is a type of L-glutamic acid		produced in green tea (Camellia Sinensis) and some mushrooms....has powerful circulatory effects, improves circulation, lowers cholesterol and reduces blood pressure	6
	Suntheanine	is a biosynthetic derivative of an amino acid found in green tea.		it is considered a more pure form of L-Theanine..	8
	Rasagiline	(AGN 1135 or Azilect) is a synthetic MAOI (monoamine oxidase inhibitor). Rasagiline selectively targets MAO type B.		MAO-B is known to metabolize and break down dopamine in the brain....preserves nerve health by regulating neurotoxins	7
	Stablon	is a brand name version of the generic drug Tianeptine, (RS)-7-(3-chloro-6-methyl-6,11-dihydrodibenzo[c,f][1,2]thiazepin-11-ylamino).		increases the amount of dopamine in the brain by accelerating absorption of serotonin.....considered a viable therapy for Alzheimer's	4
	Deprenyl	(dextro-N-propargyl-N-methylamphetamine) is a synthetic Phenethylamine compound which is prescribed as an MAO-B inhibitor		. MAO-B (monoamine oxidase B) is a natural chemical which specifically lowers dopamine levels in the brain....shown promise as a treatment for Alzheimer's symptoms	7
<b>Cognitive Metabolic Enhancers</b>	Acetyl L-Carnitine	((R)-3-Acetyloxy-4-trimethylammonio-butanoate) and commonly abbreviated as ALCAR) is an acetylated form of the compound L-Carnitine.	Alcar	Acetyl L-Carnitine is able to cross the blood-brain barrier.....binds with choline to become the neurotransmitter acetylcholine	5
	Alpha Lipoic Acid	is an anti-oxidant and fatty acid, derived from octanoic (caprylic) acid. ALA creates energy in the body through the Krebs cycle		Creates energy in the body by metabolism of carbohydrates and stimulating mitochondrial enzymes	5
	Creatine	(2-[Carbamimidoyl(methyl)amino]acetic acid) is a naturally occurring nitrogenous amino acid		primary function is to deliver energy to cells...improves metabolism throughout the body and brain	4
	Pyritinol	is a semi-synthetic derivative of Vitamin B6 (Pyridoxine), which is formed by connecting two Pyridoxine with two sulfur atoms.		naturally found in poultry, chickpeas, fish, beef, and bananas....stimulates the absorption of choline by neurons	8
	Vincamine	is a naturally occurring monoterpene indole alkaloid derived from the Vinca Minor (Periwinkle) plant. Enhances cerebral circulation with peripheral vasodilation effects.		widens blood vessels to deliver oxygen and nutrient-rich blood to the brain...accelerates the uptake of glucose	4
	Vinpocetine	is a synthesized extract of the natural plant alkaloid Vincamine, which is found in the Vinca Minor plant	Cavinton	able to increase blood flow to the brain without increasing blood pressure...widens cell walls of blood vessels	7
	Propionyl L-Carnitine	(PLCAR) is an amino acid which differs from Carnitine with the addition of Glycine		metabolizes into Creatine in the body	4
<b>Nootropic Vitamins</b>	Vitamin B1 Thiamine	(2-[3-[(4-Amino-2-methyl-pyrimidin-5-yl)methyl]-4-methyl-thiazol-5-yl] ethanol) is one of the 8 B vitamins		over time, Vitamin B1 can improve memory function, and has been used to treat the symptoms of Alzheimer's	8
	Vitamin B3 (Niacin)	is one of the 8 B-complex family vitamins.		all B vitamins create energy in the body by converting carbohydrates into glucose	6
	Vitamin B5	known as Pantoic Acid (3-[(2,4-Dihydroxy-3,3-dimethylbutanoyl)amino]propanoic acid), is an organic essential nutrient within the B vitamin complex		like all B vitamins, B5 converts sugars, starches, and fats into energy	8
	Vitamin B6	(Pyridoxine) is an organic nutrient that the body uses to convert carbohydrates into energy, in the form of glucose.		stimulates the production of several key neurotransmitters	6
	Vitamin B8	Inositol is an isomer of glucose which is considered one of the B-complex vitamins		found in food sources like nuts, grains, beans, and some fruits...enhances the activity of choline	4
	Vitamin B12	(Cobalamin) is one of the 8 organic B vitamins. B12 plays a huge role in cellular metabolism		synthesizes fatty acids and creating glucose as an energy source for the body...used as a neuroprotective supplement to slow dementia	8
<b>Nootropic Nutrients</b>	Agmatine Sulfate	is the decarboxylized derivative of L-Arginine, an essential amino acid		Sulfate binds with NMDA Glutamate receptors, limiting the natural effects of Glutamate.....can tend to over-stimulate the brain	6
	Carnosine	((2S)-2-[(3-Amino-1-oxopropyl)amino]-3-(3H-imidazol-4-yl)propanoic acid) is an organic building block of protein		produced in human brain and muscle tissue....improves insulin response and lowers glucose levels	4
	Iodine	is a trace element that must be utilized by humans in the synthesis of thyroid hormones		commonly found in soil and ocean water	6
	L-Glutamine	(2-Amino-4-carbamoylbutanoic acid) is an abundant amino acid in the human body		Like all amino acids, it is one of the building blocks of protein...improves reasoning abilities	3
	Lysine	an essential amino acid that cannot be produced by the human body		works to limit low-density lipoproteins, also known as "bad cholesterol."	4
	Magnesium	is a natural chemical element found in the human body, as well as a metal		combines with hundreds of different enzymes to participate in key reactions throughout the body....can enhance memory	4
	Omega 3's	are polyunsaturated fatty acids commonly found in fish, nuts, and seeds. These acids are specifically named ALA (fish sources) and EPA/DHA (vegetarian sources)		improve the health and function of cell membranes throughout the body....improve circulation and lower blood pressure	6
	Krill Oil	is a type of Omega 3-rich oil derived from krill, a small, abundant crustacean found in every ocean on Earth		contains both EPA and DHA fatty acids...lowers cholesterol and cuts inflammation	8
	Fish Oil	is an essential fatty acid derived as a by-product from various sea life		rich in the Omega 3 long-chain fatty acids EPA and DHA..improves cell membrane integrity and cognitive function	6
	Phosphatidylserine	is a type of human fat described as a negatively charged aminophospholipid. Is a key part of all cell membranes		stimulates the production of acetylcholine and Dopamine...improves speed and accuracy of recall...frequently used as a long term anti-aging supplement	6

	SAMe	(S-Adenosyl Methionine) is an organic compound produced by the human body		used in the methylation cycle....can reduce inflammation of the brain	4
	Sarcosine,	a metabolite of Glycine, is an organic amino acid which is produced by the human body		Also found in turkey, legumes, and egg yolks....aids the release of several key brain hormones...a memory enhancing supplement	6
	Taurine	(2-aminoethanesulfonic acid) is an organic compound found in human bile. This sulfonic acid is a derivative of the amino acid cysteine		acts as an inhibitor and depressant in the central nervous system.....lowers stress-induced cortisol levels	7
	Phenylalanine	is an essential amino acid found in many meats, dairy, and wheat		helps to synthesize the neurotransmitters dopamine, norepinephrine, epinephrine, and melatonin	6
	Uridine	is an organic component of RNA (Ribonucleic Acid) produced by the human liver		regulates brain enzymes by synthesizing Phosphatidylcholine (PC)...has strong neuroprotective properties, can prevent the onset of serious cognitive degeneration	6
<b>Nerve Growth Promoters</b>	Co-Enzyme Q10	commonly referred to as CoQ10, is a naturally occurring component of the electron transport chain		The body uses this substance as a vitamin for cellular respiration....has neuroprotective qualities	8
	ldebenone	is a synthetic form of CoQ10 made with a shorter chained quinone compound. Its chemical structure makes it more bioavailable than comparable amounts of CoQ10		can also cross the blood-brain barrier which makes it superior to CoQ10...has significant neuroprotective qualities over the long term	6
<b>Natural Nootropics</b>	Artichoke Extract	is derived from the leaves of the common vegetable, and is a source of vitamins A, B, and C, as well as minerals chromium, magnesium, and potassium		taken to improve cognitive function	8
	Ashwagandha	also known as the "Indian Ginseng," is a supplement derived from the root of the Withania somnifera plant native to India, North Africa, and the Middle East.		used as a cure-all medication	8
	Bacopa Monnieri	is a North Indian herb that is widely used in Ayurvedic medicine. The high Sarsaponins content of Bacopa Monnieri extracts create powerful anxiolytic and relaxing effects		useful in maintaining the speed of nerve transmissions in the hippocampus	6
	Forskolin	is an extract of the Indian Coleus plant (Coleus forskohlii), similar to the Vitamin A derivative retinol		categorized as a labdane diterpene supplement	8
	Grape Seed Extract	is the flavonoid and Vitamin E-rich derivative of the common fruit. Grape Seed Extract is loaded with polyphenols, and with the phytoalexins Pterostilbene and Resveratrol, natural plant-based infection fighters		Resveratrol improves circulation	2
	Ginseng	One of the most popular and widely used herbal supplements in the world, Ginseng is derived from the roots of the Panax Araliaceae plant native to Eastern Asia		Ancient Chinese folk medicine employed Ginseng as a stimulant and memory booster	6
	Hordenine	(N,N-dimethyltyramine) is a natural derivative of barley grass. It is chemically similar to phenylethylamine,		known as the "Love Drug" among neurotransmitters...is a natural MAO-B inhibitor.	6
	Kava Kava	is a traditional herbal remedy derived from the leaves of the Piper Methysticum native to the Western Pacific		The active ingredient of the plant, known as kavalactones, potentiate the effects of the inhibitory neurotransmitter GABA	4
	Lion's Mane	refers to the mushroom species Hericium Erinaceus. A staple of Chinese medicine, Lion's Mane contains a wealth of vitamins, minerals, polypeptides, and polysaccharides		Mane increases the brain's supply of Nerve Growth Factor (NGF).	6
	Lemon Balm	is an herbal remedy derived from the minty leaves of the Melissa officinalis plant.		helps the mind manage stress and achieve physical and emotional homeostasis	6
	Oat Straw	supplements are made from the immature buds of the avena sativa plant, more commonly known as green oat grass.		promotes the release of luteinizing hormones in the body.	4
	Piperine	is an alkaloid of the Piper nigrum plant, commonly known as a pepper vine. It is a component of the widely-used spice pepper. In supplement form, this alkaloid is combined with the geometric isomer chavicine		increases metabolism and facilitates the transport of key nutrients throughout the body	6
	Pterostilbene	(4-[(E)-2-(3,5-Dimethoxyphenyl)ethyl]phenol) is a plant-based phytoalexin which can be found in berries and grapes.		Pterostilbene is a natural infection-fighter	6
	Resveratrol	is a natural phenol stilbenoid found in grapes and some other fruits. Resveratrol is a strong anti-oxidant		provides excellent protection against oxidative damage throughout the body	6
	Rhodiola Rosea	is the root of a high altitude plant known as Golden Root, Rose Root, or King's Crown. When extracted for consumption, the root works as an adaptogen, bringing physical stress reactions and emotional states into balance		Induces heightened concentration and mental focus	7
	St John's Wort	is an herbal remedy derived from the Hypericum perforatum plant, also known as goatweed, Klamath, or Rosin Rose. The supplement has a centuries-old history of folk use for a broad range of physical injuries and emotional disorders.		main effect is the prevention of serotonin re-uptake	4
	Yerba Mate	is a natural remedy derived from the Ilex paraguariensis Holly plant, native to South America. Its leaves, rich in vitamins and minerals like Vitamin A, B, C, E, magnesium, selenium, and inositol, are widely consumed in the form of tea.		is a central nervous system stimulant which contains caffeine	2
	AC-11	is an organic medicinal substance derived from Cat's Claw plants, also known as Uncaria tomentosa and Uncaria guianensis. AC-11 is a source of CAE (Carboxyl Alkyl Esters), organic acids which protect and repair DNA strands that have been damaged by stress.		Inhibits inflammatory responses throughout the body	8
<b>Neurohormones</b>	DHEA	(Dehydroepiandrosterone) is a common neurohormone produced in human adrenal glands. DHEA has a steroid-like function		can reduce the visible signs of aging	6
	Vasopressin (Diapid)	is an amino acid peptide and antidiuretic neurohypophysial hormone that is naturally produced in the pituitary glands of all mammals.		helps the cells and tissues of the body to stay hydrated	10
	Desmopressin	is a synthetic replacement for the natural neurohormone Vasopressin. It is also sold under the brand names. Like Vasopressin, Desmopressin is an antidiuretic hormone, which helps the body preserve optimum states of hydration.	DDAVP, DesmoMelt, Stimat, and Minrin	can regulate blood pressure, blood sugar, and circulation	10
	Melatonin	is an organic neurohormone created by the mammalian pineal gland. It is released in response to exposure to light. More of the compound is produced in darkness, while none is produced in the presence of strong light		able to cross the blood-brain barrier, also acts as a powerful anti-oxidant in neural tissues	3
	Pregnenolone	is a natural neurosteroid which is derived from cholesterol in the adrenal glands, liver, brain, skin, and sex organs. It is also an important precursor to various other neurohormones, such as progestogens, mineralocorticoids, glucocorticoids, androgens, estrogens, and DHEA.		active at NMDA receptor sites, where it regulates communication between neurons and assists in the formation of new synapses	4
<b>Nootropic Drugs</b>	Cerebrolysin	is a neuropeptide solution which is administered via injection. Cerebrolysin works in the same way that endogenous (natural and internally generated) neurotrophic factors do in the body		Peptides aid neuron communication, and prompt neurogenesis in the hippocampus. This area of the brain is key to the formation of memory	10
	Hydergine	(Ergoloid Mesylates or dihydroergotoxine mesylate) is an ergot alkaloid drug which is derived from rye. Works by modulating synaptic communication. It does this by stimulating dopaminergic and serotonergic receptors, and blocking some adrenoceptors		Powerful anti-oxidant for brain tissue...regulates blood pressure	8
	Nicergoline	(C24-H26-Br-N3-O3) is an ergot alkaloid drug designed to treat vascular brain issues and their related effects. It functions as an adrenoceptor antagonist, raising blood flow to the brain and helping transport neurohormones.		boosts cellular metabolism and regulates blood glucose levels, especially in the brain.	10
	Propranolol	is a prescription beta blocker. The drug inhibits various effects of the sympathetic nervous system, specifically the action of the neurotransmitter norepinephrine.		primarily prescribed to treat high blood pressure (hypertension) and prevent frequent heart attacks	4
	Selank	is a synthetic variation of the human tetrapeptide tuftsin. Tuftsin plays a significant role in immune response. Selank		It also modulates brain-derived neurotrophic factor (BDNF), a protein	8

		works to regulate the action of monoamine neurotransmitters, resulting in boosted levels of neurohormones like serotonin and dopamine. Has lower toxicity and addiction risks than traditional anti-anxiety medications like benzodiazepines		which impacts long term memory.	
	Semax	(Pro8-Gly9-Pro10 ACTH(4-10)) is a neuroactive peptide derived from corticotropin which is very similar to Noopept powder. Semax has a broad range of neurotransmitter interactions, stimulating receptors for dopamine, serotonin, acetylcholine, and NMDA glutamate		has a broad range of neurotransmitter interactions...helps to synthesize NGF	8
<b>Xanthines</b>	Caffeine	a xanthine alkaloid compound, is the most commonly used psychostimulant on Earth. Found in plant seeds, leaves, and fruit, such as coffee beans, caffeine possesses strong dopaminergic activity.		stimulates the release of the natural neurotransmitter dopamine, generating intense mental focus and improved mood.	6
	Green Tea	is a commonly consumed stimulant derived from the leaves of the Camellia sinensis plant. It can be boiled into a beverage or extracted into a supplement powder. Green tea has a high concentration of flavonoids, phytochemicals with very strong anti-oxidant benefits		also contains the stimulant caffeine in small quantities	4

Note! The higher the memory rating, the greater the expected memory improvement

This list is not complete, there are additional stimulants and smart drugs which are not relevant here