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Neurotransmitter Table

Neuro transmitter	Receptor Subtype	Location/Function/ Effects/symptoms of excess or deficit if applicable	Distribution (ie: CNS/PNS, GI, vascular)	Drug classes that target this neurotransmitter or receptor	Specific medicati neurotransmitte
Glutamate	**AMPA**	**Location:** CNS in neurons and glia. Ligand-gated ion channels. **Function:** Modulate cell excitability by allowing the flow of calcium & sodium ions into the cell. **Effects/Symptoms of excess** Excess results in schizophrenia. Epilepsy, and mania **Deficit:** Cognitive impairment.	CNS	NMDA glutamate Antagonist Barbituates Antiepileptics	Memantine Ketamine Dextromethorpha Dextromethadon Perampanel Phencyclidine
	NMDA	**Location:** Mainly postsynaptic at excitatory synapses throughout the brain, especially cortex	CNS	NMDA glutamate Antagonist Antipsychotics Loop Diuretics	Amantadine Memantine Ketamine Ketobemidone

		and hippocampus Ligand-gated ion channels **Function:** Involved in strong memory formation. strengthen synapses **Symptoms of excess or deficit if applicable** Excess is associated with memory and learning impairments, psychosis, and excitotoxic brain injury.		Opiates Antidepressants	Dextromethorpha Furosemide Haldol Tramadol methac Dextropropoxyph
GABA	**GABA a**	Ligand-gated channels **Location:** cerebral cortex, hippocampus, cerebellum, thalamus, and brainstem **Function:** Causes post synaptic inhibition by Cl- influx **Symptoms of excess or deficit if applicable** Deficit is linked to anxiety,insomnia, tremor, and seizures. Excess GABA a causes	CNS Limbic system Striatum Medulla Spinal Cord	Benzodiazepines, Z-drugs Barbiturates some anesthetics, Alcohol	Loraz m, Clona m, Alpra

		somnolence, ataxia, respiratory depression			m Zolpi Zopic zalep Allop anolo Lorazepam, Clonazepam, Alprazolam Zolpidem Zopiclone, Zaleplon Allopregnanolone Phenobarbital, Propofol
	GABA b	**Location:** Pre- and postsynaptic in CNS (hippocampus, thalamus, spinal cord cerebellum, and spinal cord	CNS PNS	GABA-B agonists.	Baclofen, Lesogaberan Arbaclofen

		Function: Mediates slow inhibitory signaling, inhibits Ca^{2+} channels and transmitter release **Symptoms of excess or deficit if applicable** **Deficit:** Possible spasticity, seizures. **Excess:** Sedation, dizziness, muscle hypotonia.			
Serotonin 5HT	**5HT 1a**	Auto receptor on raphe neurons and postsynaptic receptors in cortex/limbic areas **Location:** Located on the cell body and dendrites in the mid-brain. **Targets:** anxiety, depression, negative symptoms in schizophrenia, decreases sexual dysfunction and lack of weight gain with antidepressants, boosts actions of SSRIs and SNRIs	CNS High in dorsal/median raphe, hippocampus, septum, amygdala, cortex.	SSRIs SNRIs SGAs FGAs MAOIs TCAs Mood stabilizers	Aripiprazole Buspirone Brexpiprazole Cariprazine Clozapine Lithium Lurasidone Trazodone Valproate vortioxetine
	5HT 1B	**Location:** Auto receptor located on the presynaptic axon terminal.	CNS Vascular smooth muscle.	Antidepressants Second generation antipsychotics (SGAs)	Aripiprazole Asenapine Clozapine