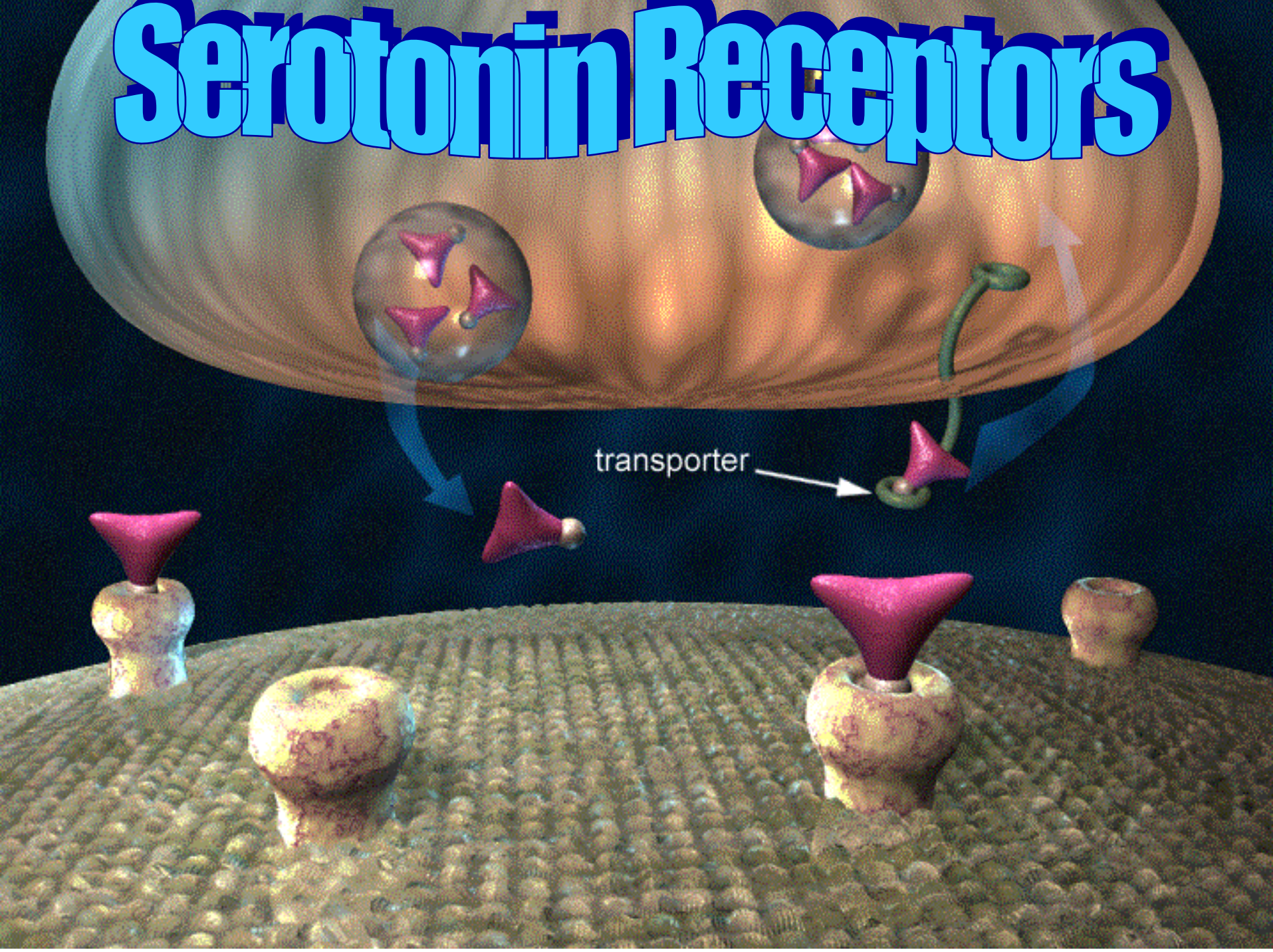
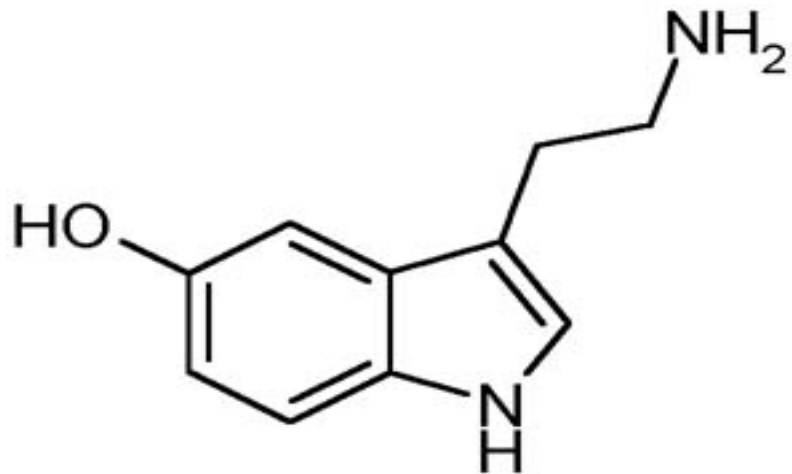


# Serotonin Receptors



# Serotonin



- **Serotonin (5-hydroxytryptamine, 5HT) is formed by the hydroxylation and decarboxylation of tryptophan**
- **5HT is found in the the gastrointestinal tract, in platelets, CNS & PNS.**



# Functions of Serotonin in the body:

- memory,
- learning,
- temperature regulation,
- mood,
- sexual behavior,
- cardiovascular function,
- muscle contraction,
- endocrine regulation
- eating,
- sleeping
- aggression,
- an inhibitory effect on the nervous system that calms, soothes and generates feelings of general contentment and satiation

# Serotonin Disorders:

- Depression,
- Schizophrenia,
- Parkinson's disease
- anorexia,
- bulimia,
- obsessive compulsive disorders,
- migraines,
- social phobias

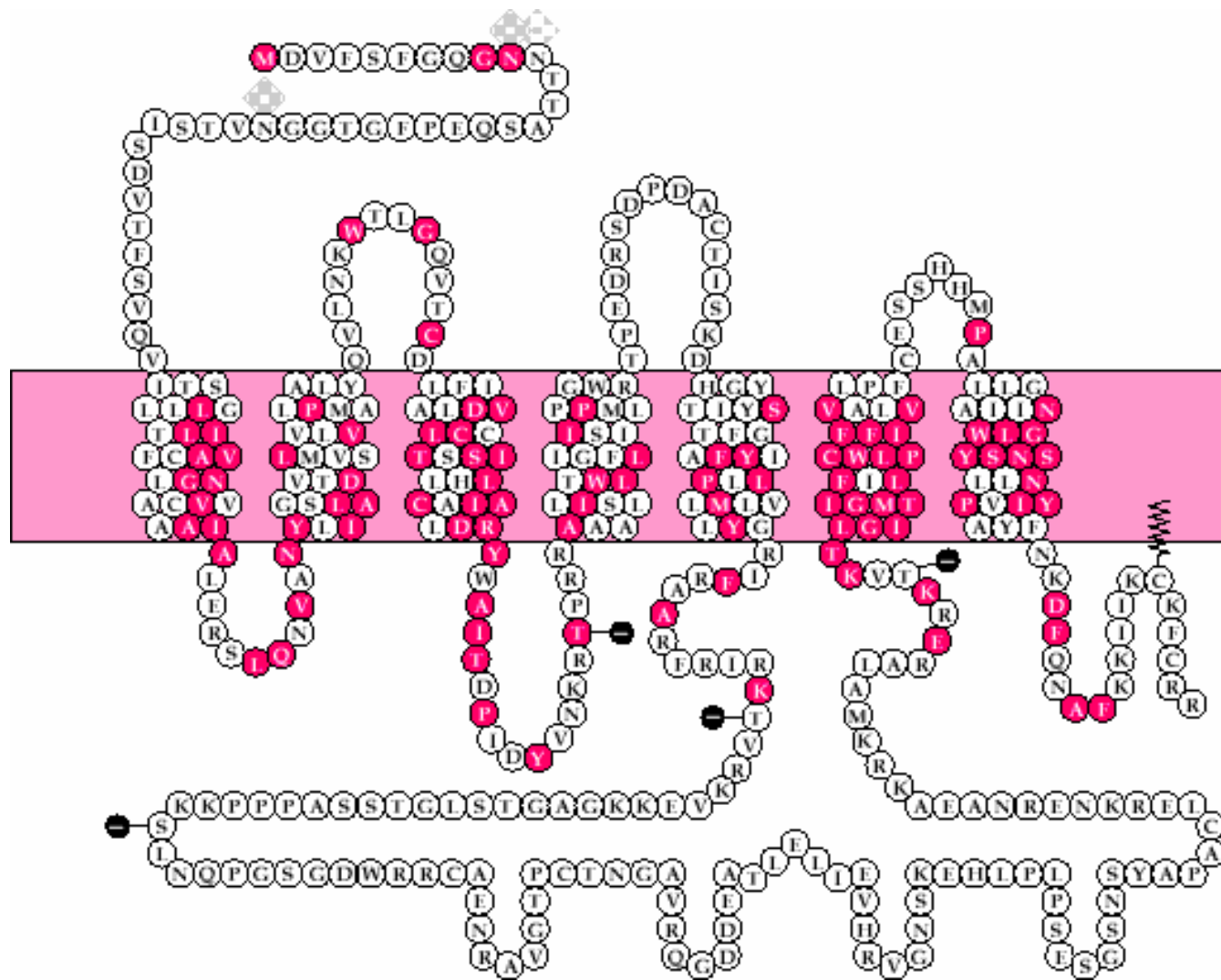


# 5-HT receptors are diverse with regard to their

- regional and synaptic localization,
- developmental regulation,
- affinity for serotonin,
- effects on intracellular signaling pathways.

# Summary of characterized 5-HT receptors

<i>receptor</i>	<i>location</i>	<i>action</i>
5-HT <sub>1A</sub>	CNS	neuronal inhibition, behavioral effects (sleep, feeding, thermoregulation, anxiety)
5-HT <sub>1B</sub>	CNS	presynaptic inhibition, behavioral effects; vascular: pulmonary vasoconstriction
5-HT <sub>1D</sub>	CNS	locomotion; vascular: cerebral vasoconstriction
5-HT <sub>2A</sub>	CNS	neuronal excitation, behavioral effects; vasoconstriction/dilatation
5-HT <sub>2B</sub>	stomach	contraction
5-HT <sub>2C</sub>	CNS, choroid plexus	cerebrospinal fluid (CSF) secretion
5-HT <sub>3</sub>	CNS, PNS	neuronal excitation, anxiety, emesis
5-HT <sub>4</sub>	GIT, CNS	neuronal excitation, gastrointestinal motility
5-HT <sub>5</sub>	CNS	unknown
5-HT <sub>6</sub>	CNS	unknown
5-HT <sub>7</sub>	CNS, GIT, blood vessels	unknown



Sinauer Associates, Inc.  
 Feldman  
*Fundamentals of  
 Neuropharmacology*  
 Fig. 9-18

# ***Movies***



Shortcut to sero1.wmv.Ink



Shortcut to sero2.wmv.Ink



Shortcut to sero3.wmv.Ink



Shortcut to sero4.wmv.Ink



Shortcut to sero5.wmv.Ink

[Location, synthesis and release](#)

[Post-synaptic 5HT1A receptors](#)

[Post-synaptic 5HT2A receptors](#)

[Serotonin degradation](#)

[Serotonin and mood disorders](#)





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