A

Autoreceptor

Maya Balamane¹, Beth Kuczynski² and Stephanie A. Kolakowsky-Hayner³

¹Mount Sinai Brain Injury Research Center, San Francisco, CA, USA

²Imaging of Dementia & Aging (IDeA) Laboratory, Department of Neurology & Center for Neuroscience, University of California, Davis, CA, USA

³Stanford Concussion and Brain Performance Center, Palo Alto, CA, USA

synthesis and/or release. In most cases, a negative feedback happens, inhibiting the release of the neurotransmitter. Dopaminergic neurons can have autoreceptors that regulate the release of dopamine. Autoreceptor regulation is very effective in modulating neurotransmission and is of interest for pharmacological intervention.

Cross-References

- [Hormones](#)
- [Neurotransmitters](#)

Synonyms

[Receptor](#)

Definition

An autoreceptor is a receptor located on the neuron (terminals, soma, and/or dendrites), and the function is to bind a specific ligand (such as neurotransmitters or hormones) released by that same neuron. The autoreceptor is mainly used as a feedback mechanism to monitor neurotransmitter

References and Readings

- Carey, R., DePalma, G., Damianopoulos, E., Müller, C., & Huston, J. (2004). The 5-HT1A receptor and behavioral stimulation in the rat: Effects of 8-OHDPAT on spontaneous and cocaine-induced behavior. *Psychopharmacology*, 177(1/2), 46–54. doi:[10.1007/s00213-004-1917-4](https://doi.org/10.1007/s00213-004-1917-4).
- Meltzer, H. (1980). Relevance of dopamine autoreceptors for psychiatry: Preclinical and clinical studies. *Schizophrenia Bulletin*, 6(3), 456–475.
- Schilcker, E., & Feuerstein, F. (2016). Human presynaptic receptors. *Pharmacology and Therapeutics*. doi:[10.1016/j.pharmthera.2016.11.005](https://doi.org/10.1016/j.pharmthera.2016.11.005). (in press).