Mesolimbic Dopaminergic Projections

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VTA dopaminergic projections are important for encoding rewarding stimuli in the nucleus accumbens and cognition in the prefrontal cortex. Drugs of abuse utilize the nucleus accumbens rewarding pathway and dopaminergic dysfunction in the prefrontal cortex may underlie some forms of schizophrenia.

Synonyms

[Ventral tegmental area](#)

Definition

The mesolimbic dopamine system arises from the ventral tegmental area (VTA) of the midbrain located medial to the substantia nigra and ventral to the red nucleus. The VTA dopaminergic neurons are controlled by inputs from throughout the central nervous system. In turn, VTA neurons project to limbic structures of the brain including the nucleus accumbens and prefrontal cortex. The

Cross-References

- ▶ [Nucleus Accumbens](#)
- ▶ [Substantia Nigra](#)
- ▶ [Ventral Tegmental Area of Midbrain](#)

References and Readings

- Fields, H. L., Hjelmstad, G. O., Margolis, E. B., & Nicola, S. M. (2007). Ventral tegmental area neurons in learned appetitive behavior and positive reinforcement. *Annual Review of Neuroscience*, 30, 289–316.