Nucleus Accumbens

Michelle L. Block
Stark Neuroscience Research Institute, Indiana
University, Indianapolis, IN, USA

Synonyms

[Accumbens nucleus](#); [Nucleus accumbens septi](#)

Definition

The nucleus accumbens (NAcc) is located in the forebrain at the caudal component of the anterior prolongation of the lateral ventricle of the brain and is the largest neuronal nucleus in the septal region of the diencephalon. The NAcc predominantly comprises medium spiny GABA-ergic projection neurons. Dopaminergic input to the NAcc from the ventral tegmental area is an essential

component of the mesolimbic dopaminergic system that mediates reward in response to drugs of abuse, such as cocaine and amphetamine. The NAcc is involved in laughter, reward, pleasure, addiction, and fear. For more detailed information, see Ikemoto (2007).

Cross-References

- ▶ [Basal Ganglia](#)
- ▶ [Limbic System](#)
- ▶ [Ventral Tegmental Area of Midbrain](#)

References and Reading

- Ikemoto, S. (2007). Dopamine reward circuitry: Two projection systems from the ventral midbrain to the nucleus accumbens-olfactory tubercle complex. *Brain Research Reviews*, 56(1), 27–78.