S

Substantia Nigra

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Definition

The substantia nigra (SN) is a nucleus in the ventral part of the midbrain tegmentum, which is darkly pigmented (hence its name) because neuromelanin is a by-product of the synthesis of catecholamines, like dopamine. The substantia nigra is the principal source of dopamine in the brain. The SN contains two subdivisions: the pars compacta (SNc), which contains the cell bodies of dopaminergic neurons, and the pars reticulata (SNr), which contains the cell bodies of GABA-

ergic neurons. The SNc projects primarily to the striatum (caudate and putamen), whereas the SNr projects primarily to the superior colliculus, motor thalamus (VA/VL), and intralaminar nuclei of the thalamus. In Parkinson's disease, there is a substantial loss of dopaminergic neurons in the SNc, which results in a resting tremor, bradykinesia, freezing, and festinating gait.

Cross-References

- [Dopamine](#)
- [Midbrain](#)
- [Parkinson's Disease](#)
- [Superior Colliculus](#)
- [Thalamus](#)

The author is retired.