N

Neurotoxins

George C. Wagner
Department of Psychology, Rutgers University,
New Brunswick, NJ, USA

Synonyms

[Neurotoxicant](#)

Definition

A chemical is said to exert neurotoxic effects if it adversely affects the structure or function of the nervous system. Neurotoxins are those derived from microbes, plants, or animals, while neurotoxicants are synthesized chemicals usually

thought of in the context of environmental exposure. Neurotoxins may exert immediate or acute effects (lasting only so long as the compound is present in the body), or they may exert long-lasting effects following permanent damage to the nervous system. Examples include black widow spider venom (releases acetylcholine), botulinum toxin (blocks release of acetylcholine), curare (nicotinic antagonist), tetanus toxin: (blocks release of amino acid neurotransmitters), and tetrodotoxin (blocks sodium channel).

References and Readings

Klaassen, C., & Watkins, J. B. III. (2010, 2 August). *Casarett & Doull's essentials of toxicology* (2nd ed.). New York: McGraw Hill Professional.