

The nervous system uses chemical messengers, called neurotransmitters. In the autonomic nervous system, there are 2 main neurotransmitters:

- Norepinephrine (noradrenaline): adrenergic
- Acetylcholine : cholinergic: action blocked by atropine (Belladonna)

The sympathetic nervous system is predominantly adrenergic with the exception of sweat glands and some blood vessels, which require acetylcholine.

The parasympathetic nervous system involves cholinergic transmission.

Adrenergic receptors on which norepinephrine act, can be divided in alpha and beta types (some organs contain both alpha and beta receptors) and this has some bearing upon the way in which the neurotransmitter works: whether it is excitatory (causing an active response such as contraction) or inhibitory (causing relaxation/dilation).

Generally, alpha receptors are concerned with excitatory effects (contraction): except alpha-2 receptors in the gut, which reduce gut tone and motility; beta receptors are mostly inhibitory (relaxation/dilation) except beta-1 receptors in the heart, which cause contraction and increased conduction velocity of electrical activity in the heart.