Alpha-adrenergic receptors have been divided into $\alpha_1$ and $\alpha_2$ subtypes. $\alpha_1$-receptors are responsible for the effects noted in the table above. $\alpha_2$-receptors are predominantly presynaptic receptors that modulate the release of norepinephrine from the nerve terminal. However, $\alpha_2$-receptors have been found on the postsynaptic membrane as well. Stimulation of presynaptic $\alpha_2$-receptors results in the inhibition of the release of norepinephrine into the synaptic cleft.

Activation of $\beta$ receptors induces adenylyl cyclase, which converts ATP to cyclic-AMP that functions as a secondary messenger within the effector organ cell.

At least 5 subtypes of muscarinic receptors have been identified and labeled $M_1, M_5$. $M_1$ receptors appear to modulate ganglia transmission. $M_2$ receptors are found in the heart and CNS. $M_3$ receptors appear responsible for smooth muscle contraction in the bronchioles and eye as well as increasing secretion from exocrine glands, such as the salivary glands. $M_4$ receptors are found largely in the CNS and promote locomotion. $M_5$ receptors have also been found in the CNS, although their function has not been totally elucidated. Atropine is effective in blocking all 5 types of muscarinic receptors.

Additional Reading: