The alpha-2 (α2) adrenergic receptor (or adrenoceptor) is a G protein coupled receptor (GPCR) associated with the Gi heterotrimeric G-protein. It consists of three highly homologous subtypes, including α2A-, α2B-, and α2C-adrenergic. Some species other than humans express a fourth α2D-adrenergic receptor as well.

Catecholamines like norepinephrine (noradrenaline) and epinephrine (adrenaline) signal through the α2-adrenergic receptor in the central and peripheral nervous systems.

The continued quest for a novel sedating agent for intensive care and need for drugs to blunt the stress response to the surgical stimulus has led to the increasing use of α-2 adrenergic agonists in these clinical settings. These drugs have a favorable pharmacological profile owing to their sympatholytic, sedative, analgesic, anxiolytic, and anesthetic drugs sparing effects.

Clonidine, which was introduced earlier as an anti-hypertensive was commonly used α-2 adrenergic agonist in various clinical scenarios including regional and general anesthesia.

Newer more selective α-2 agonist dexmedetomidine