

# Notch receptor

The [Notch receptor](#) is a type I [transmembrane protein](#) that is found on the surface of [cells](#) in many animals, including humans. The [protein](#) is composed of an [extracellular domain](#), a transmembrane domain, and an intracellular domain.

The extracellular domain of the Notch receptor contains multiple [epidermal growth factor](#) (EGF)-like repeats that are involved in ligand binding. The transmembrane domain spans the plasma membrane, and the intracellular domain contains multiple domains that are involved in signal transduction.

There are four Notch receptors in mammals, Notch1-4, each encoded by a separate gene. The receptors are widely expressed in developing and adult tissues, and their expression patterns often overlap with those of their ligands, which are also transmembrane proteins.

The Notch receptor is activated when its extracellular domain binds to a ligand on the surface of an adjacent cell, leading to a series of proteolytic cleavages that release the intracellular domain of the receptor (NICD). The NICD then translocates to the nucleus, where it binds to transcription factors and activates the transcription of target genes, leading to changes in cell fate, differentiation, and proliferation.

The Notch receptor plays a crucial role in many developmental processes, and dysregulation of Notch signaling has been implicated in a number of human diseases, including cancer, cardiovascular diseases, and neurodegenerative disorders. Therefore, understanding the structure and function of the Notch receptor is important for developing therapies to treat these diseases.

## [Notch signaling pathway](#)

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Last update: **2024/06/07 02:50**

