

A transmembrane ligand is a type of [signaling molecule](#) that is anchored to the cell membrane by a [transmembrane domain](#). Transmembrane ligands are important for many signaling pathways, including the Notch signaling pathway.

In the case of the Notch pathway, both the Notch receptor and its ligands are transmembrane proteins. The ligands, such as Jagged and Delta-like proteins, bind to the extracellular domain of the Notch receptor on an adjacent cell. This binding triggers a series of proteolytic cleavages that release the intracellular domain of the Notch receptor, which then translocates to the nucleus and activates the transcription of target genes.

Transmembrane ligands are involved in a variety of signaling pathways, including those involved in immune responses, development, and tissue homeostasis. Dysregulation of transmembrane ligands and their associated signaling pathways has been implicated in many human diseases, including cancer, autoimmune diseases, and developmental disorders.

Understanding the structure and function of transmembrane ligands is important for developing targeted therapies that modulate their activity. For example, there has been interest in developing antibodies that target the Notch ligands as a potential cancer therapy, as dysregulated Notch signaling is a common feature of many cancers.

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Last update: **2024/06/07 02:52**

