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CXCR

CXC chemokine receptors; C-X-C motif chemokine receptors

CXCRs (CXC chemokine receptors) are integral membrane proteins that specifically bind and respond to cytokines of the CXC chemokine family. They represent one subfamily of chemokine receptors, a large family of G protein-linked receptors that are known as seven transmembrane (7-TM) proteins, since they span the cell membrane seven times. There are currently seven known CXC chemokine receptors in mammals, named CXCR1 through CXCR7. CXCR1 and CXCR2 are closely related receptors that recognize CXC chemokines that possess an E-L-R amino acid motif immediately adjacent to their CXC motif. CXCR3 is expressed predominantly on T lymphocytes. CXCR4 is the receptor for a chemokine known as CXCL12 (or SDF-1) and, as with CCR5, is utilized by HIV-1 to gain entry into target cells. The chemokine receptor CXCR5 is selectively expressed on B cells and is involved in lymphocyte homing and the development of normal lymphoid tissue. CXCR6 was formerly called three different names (STRL33, BONZO, and TYMSTR) before being assigned CXCR6 based on its chromosomal location and its similarity to other chemokine receptors in its gene sequence. CXCR7 was originally called RDC-1 (an orphan receptor) but has since been shown to cause chemotaxis in T lymphocytes in response to CXCL12 (the ligand for CXCR4) prompting the renaming of this molecule as CXCR7.