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Inhibitors, Screening Libraries, Proteins

CCR

CC chemokine receptor

CCR (Chemokine receptors) are cytokine receptors found on the surface of certain cells that interact with a type of cytokine called chemokine. There have been 19 distinct chemokine receptors described in mammals. Each has a 7-transmembrane (7TM) structure and couples to G-protein for signal transduction within a cell, making them members of a large protein family of G protein-coupled receptors. Following interaction with their specific chemokine ligands, chemokine receptors trigger a flux in intracellular calcium (Ca^{2+}) ions (calcium signaling). This causes cell responses, including the onset of a process known as chemotaxis that traffics the cell to a desired location within the organism. Chemokine receptors are divided into different families, CXC chemokine receptors, CC chemokine receptors, CX3C chemokine receptors and XC chemokine receptors that correspond to the 4 distinct subfamilies of chemokines they bind. Specific chemokine receptors provide the portals for HIV to get into cells, and others contribute to inflammatory diseases and cancer.