The CCL2-CCR2 axis: A critical molecular target of new cancer therapies

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Video Byte

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Abstract

CCL2 is a small cell-signaling protein that recruits immune cells to sites of inflammation. CCR2 is CCL2's receptor. Together, CCL2 and CCR2 create an inflammatory and immune-suppressive microenvironment, which promotes tumor growth and progression and induces resistance to anticancer drugs. A recent review highlights research on the therapeutic potential of targeting this so-called "CCL2-CCR axis". Circulating levels of CCL2 are particularly elevated in individuals with obesity. Studies on men with prostate cancer suggest that inhibiting CCL2 signaling can significantly inhibit tumor growth and invasion. More work is needed to differentiate natural CCL2 levels in patients from tumor-derived CCL2 involved in the formation and spread of tumors, which could lead to new ways of attacking cancer and cancer resistance.