

Mouse Monoclonal Antibody (4G11) Against Insulin-Like Growth Factor I Receptor

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Technology description

Summary

The insulin-like growth factor I receptor (IGF-IR) is emerging as a molecular target for cancer treatment. Prospective studies in humans provide evidence for a relationship between circulating levels of both IGF-I and IGF binding protein 3 (IGFBP-3) and the risk for the development of cancers of the prostate, breast, lung, and colon. Many human cancers express or over-express components of the IGF signaling pathway, in particular IGF-II and the IGF-I receptor. This technology describes a mouse monoclonal antibody that binds the insulin-like growth factor I receptor. The IGF-IR monoclonal antibody 4G11 blocks binding of IGF-I to its receptor and promotes down regulation of the receptor in MCF-7 breast cancer cells, MG-63 osteosarcoma cells and a panel of colon cancer cells. Additionally, 4G11 stimulated down-regulation of the IGF-I receptors in MCF-7 cells results in inhibition of Akt and MAPK activation by IGF-I. This monoclonal antibody has utility as a laboratory reagent for immunoprecipitations, and as an inhibitor of the IGF-I signaling pathway. A humanized form of monoclonal antibody 4G11 would potentially have utility as a therapeutic to treat a variety of cancers in which IGF-IR signaling has been shown to be important.

Institution

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