Interleukin-13 receptor alpha 2

IL-13Rα2, or Interleukin-13 receptor alpha 2, is a protein that is found in the human body and plays a role in certain biological processes, particularly in the context of cancer. Here are some key points about IL-13Rα2:

Receptor Protein: IL-13Rα2 is a receptor protein, which means it is involved in signaling pathways that cells use to communicate with each other.

Binding to IL-13: IL-13Rα2 is known for its ability to bind to interleukin-13 (IL-13), which is a cytokine or signaling molecule involved in immune responses and inflammation.

Expression in Glioblastoma: IL-13Rα2 has gained particular attention in the context of glioblastoma, a type of aggressive brain cancer. It is often overexpressed on the surface of glioblastoma cells.

Target for Immunotherapy: The overexpression of IL-13Rα2 in glioblastoma cells has made it a potential target for immunotherapy approaches, such as CAR-T cell therapy. CAR-T cells can be engineered to target glioblastoma cells that express IL-13Rα2.

Therapeutic Potential: Researchers have been exploring the use of IL-13Rα2 as a target for experimental treatments aimed at combating glioblastoma. This includes using CAR-T cells that are designed to recognize and attack cancer cells expressing IL-13Rα2.

Challenges: While IL-13Rα2-targeted therapies have shown promise in preclinical studies and some clinical trials, there are still challenges to overcome, such as optimizing the effectiveness of these therapies and managing potential side effects.

Other Roles: IL-13Rα2 may have additional roles in the body beyond its involvement in cancer. It is part of a complex network of signaling pathways that regulate immune responses and inflammation.

In summary, IL-13Rα2 is a receptor protein that has gained attention in cancer research, particularly in the context of glioblastoma, due to its overexpression on the surface of cancer cells. It represents a potential target for immunotherapies like CAR-T cell therapy aimed at treating glioblastoma and other IL-13Rα2-expressing cancers.

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