



TECHNOLOGY

Compositions and Methods for Treating Inflammation and Cancer

OVERVIEW

Summary

The patent "Compositions and Methods for Treating Inflammation and Cancer" introduces a novel approach to immunotherapy by modulating the LT β R-NF κ B signaling pathways. This technology aims to enhance treatment specificity and efficacy for tissue rejection and certain cancers. The immunotherapy drugs market, valued at USD 110.55 billion in 2021, is projected to grow significantly, driven by the demand for innovative treatments.

Market

The immunotherapy drugs market is a burgeoning field within the pharmaceutical industry, characterized by a robust growth trajectory and a significant impact on the treatment of various chronic diseases, including cancer. As of 2021, the market valuation stood at USD 110.55 billion, with projections showing a compound annual growth rate (CAGR) of 6.92% from 2022 to 2030, potentially reaching a market size of USD 200.55 billion by the end of the forecast period. Driving this growth is the increasing global incidence of chronic diseases, which has spurred a surge in demand for innovative and effective treatment modalities.

Immunotherapy drugs, which harness the body's immune system to combat graft rejection, inflammation, and cancer are primary application of the innovation detailed in the patent "Compositions and Methods for Treating Inflammation and Cancer."

Technology

The patent "Compositions and Methods for Treating Inflammation and Cancer" describes a method and composition of treatment for diseases where cell motility plays a pivotal role. This innovative technology centers around the modulation of the lymphotoxin-beta receptor (LT β R)-NF κ B signaling pathways. These pathways are integral to the immune system's response, influencing cell movement and activity, which are crucial in conditions such as tissue graft rejection, various inflammatory diseases, contact hypersensitivity, and cancer.

The novelty of this invention lies in its selective inhibition of the classical or non-classical LT β R-NF κ B signaling pathways. The invention employs LT β R-Ig, a pan-LT β R signaling inhibitor, to block both pathways. By specifically targeting these pathways, the invention aims to control cell motility, offering a novel approach in the treatment of the stated conditions.

The technical advantages of this invention are manifold. By focusing on the LT β R-NF κ B signaling pathways, treatments can be more effective and specific compared to traditional methods. This specificity minimizes off-target effects and maximizes therapeutic benefits. The primary applications of this technology are for the treatment of immune system-related diseases and cancers. By modulating the immune response, the invention has the potential to improve graft survival, reduce inflammation, and inhibit cancer progression.

References

"Immunotherapy Drugs Market Size & Share Report, 2030," Grand View Research, "The global immunotherapy drugs market size was valued at USD 110.55 billion in 2021 and is expected to expand at a compound annual growth rate (CAGR) of 6.92% from 2022 to 2030." [Online]. Available: <https://www.grandviewresearch.com/industry-analysis/immunotherapy-drugs-market-report>. [Accessed: Day, Month, Year].

Additional Information

Potential Fields of Application: immunotherapy, graft rejection, cancer treatment, treatment of autoimmune diseases, and tissue grafting.

Keywords: LT α -NF κ B signaling pathway, cell motility, inflammation, cancer, graft rejection, hypersensitivity.

Advantages:

- Potential for more effective treatments with minimized off-target effects.

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Patent Portfolio:

- EP 18 785 010.2 (pending)
- US Patent 11,590,202 (issued)
- PCT/US2018/027049 (nationalized)

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CATEGORIES

- Therapeutics

JB-2017-082