

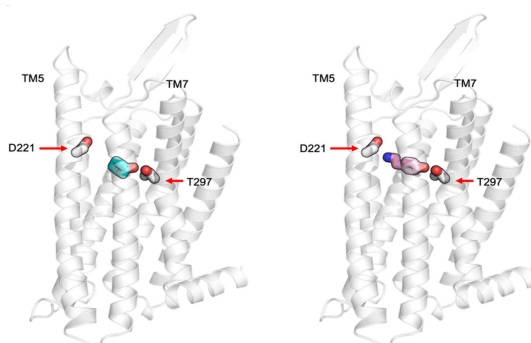
Technology Opportunity

Ref. No. **IOR22P001**

Title **Targeting OR13A1 in the treatment of Lymphomas**

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Invention This innovation centers on a promising avenue for treating and preventing lymphomas, focusing on two challenging types, diffuse large B-cell lymphoma (DLBCL) and mantle cell lymphoma (MCL). The key idea here is to target a particular G protein-coupled receptor (GPCR), called OR13A1, expressed by lymphoma cells and belonging to the family of the olfactory receptors. This receptor appears to play a role in sustaining the growth of these cancers. Thus, this invention explores the possibility of using ligands to influence OR13A1 and potentially slow down or even stop the progression of lymphomas. The invention also encompasses methods for identifying suitable patients for enhanced lymphoma treatment based on their OR13A1 receptor expression levels and a technique to select compounds

Background Lymphomas, like DLBCL and MCL, are complex and challenging cancers. Existing treatments, such as chemotherapy, cellular therapies and stem cell transplantation, have their limitations, and many patients are not cured. OR13A1 is a receptor found not only in the epithelial cells of the nose but also in lymphoma cells. Although it has been identified as being involved in DLBCL, its exact role and how it could be targeted for treatment have not been explored much. The complexity of this receptor family presents both opportunities and challenges for developing targeted therapies for lymphomas. Given the pressing need for better, more personalized treatments for these lymphoma types, this invention addresses a critical gap in lymphoma research and treatment.

Advantages This invention introduces an innovative therapeutic approach for addressing lymphomas, specifically DLBCL and MCL, by focusing on the strong expression of OR13A1. By modulating OR13A1 with ligands, it has the potential to induce cell cycle arrest and cell death in cancer cells, offering the opportunity to slow down or potentially halting disease progression.

Field of Use The field of use for this invention is the treatment and prevention of lymphomas, with particular emphasis on DLBCL and MCL. The invention targets these lymphoma forms using ligands designed to modulate the olfactory receptor OR13A1, potentially offering improved treatment options for patients.

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Keyword(s) Lymphomas, DLBCL, MCL, OR13A1, Ligand, therapy, Pro-growth receptors, Combination therapy, Personalized treatment, Treatment resistance, Disease progression markers.

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