N1 IL-4 Antagonist

Catalogue number: 157778
Sub-type: Inhibitor
Images:

Contributor

Inventor:
Institute: Deakin University
Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: N1 IL-4 Antagonist

Alternate name: N1

Class:
Conjugate:
Description: There has been a marked increase in prevalence of atopic disease in regions such as Western Europe, the US, Australasia and Asia Pacific during recent years, especially in industrialised nations. In atopic individuals, an immune response is mounted by T cells that are activated by allergens, promoting T helper Type 2 (Th2) variant of cells. Once stimulated, these cells subsequently produce cytokines such as interleukin-4 (IL-4) and interleukin-13 (IL-13). In allergic cascades, cytokine IL-4/IL-13 binds to IL-4 receptor (IL-4R), consequently causing B and T cell proliferation and differentiation and the production of allergen-specific IgE antibodies by B cells. Although a range of techniques has been employed to down regulate the interaction between IL-4/IL-13 with IL-4Ra (e.g. monoclonal antibodies, antagonists and soluble receptors), the efficiency of these approaches still remains in doubt. Characterisation of novel antagonists that inhibit the combined effects of IL-4 and IL-13 is essential. Using Phage display, screening of a random 12-mer synthetic peptide library with human IL-4Ra was carried out in order to identify candidates. The peptide N1 was selected and synthesised for use in ELISA, demonstrating significant binding to IL-4Ra and inhibiting interaction with cytokine IL-4. The peptide was tested in a transfected HEK-Blue IL-4/IL13 cells, which produces alkaline phosphatase (AP) and showed a >50% inhibition with a simple colorimetric analysis. As this peptide targets the two most clinically important cytokines in allergy, it promises to provide for the future treatment for all IgE-mediated allergies. Publication - PMID: 26044177
Purpose:
Parental cell:
Organism:
Tissue:
Model:

Gender:
Isotype:
Reactivity:
Selectivity:
Host:
Immunogen:
Immunogen UNIPROT ID:
Sequence:
Growth properties:
Production details:
Formulation:
Recommended controls:
Bacterial resistance:
Selectable markers:
Additional notes:

Target details

Target: IL-4

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application:
Application notes:

Handling

Format:
Concentration:
Passage number:
Growth medium:
Temperature:
Atmosphere:
Volume:
Storage medium:
Storage buffer:
Storage conditions:

Shipping conditions: Dry Ice

Related tools

Related tools:

References

References: Altimari et al. 2014. Bioorg Med Chem Lett. 24(21):4948-53. PMID: 25301770.