Human IL3RA / CD123 Protein (His Tag)

Catalog Number: **10518-H08H**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CD123; hIL-3Ra; IL3R; IL3RAY; IL3RX; IL3RY

Protein Construction:

A DNA sequence encoding the human IL3RA (NP_002174.1) extracellular domain (Met 1-Arg 305) was expressed, with a C-terminal polyhistidine tag.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA . Immobilized human IL3 at 20 μg/ml (100 μl/well) can bind biotinylated human IL3RA with a linear ranger of 0.32-1.6 μg/ml.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Thr 19

Molecular Mass:

The secreted recombinant human IL3RA comprises 298 amino acids and has a predicted molecular mass of 34.5 kDa. As a result of glycosylation, the apparent molecular mass of rh IL3RA is approximately 50-60 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

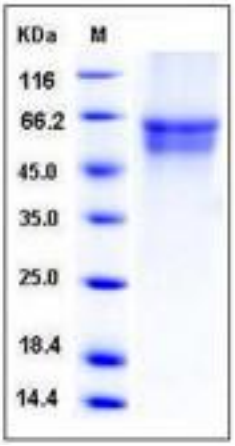
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Interleukin-3 receptor subunit alpha, also known as IL-3 receptor subunit alpha, IL-3R-alpha, CD123, and IL3RA, is a single-pass type I membrane protein which belongs to the type I cytokine receptor family and Type 5 subfamily. The specific alpha subunit of the interleukin-3 receptor (IL-3Ralpha, CD123) is strongly expressed in various leukemic blasts and leukemic stem cells and seems to be an excellent target for the therapy of leukemias. The WSXWS motif of IL3RA appears to be necessary for proper protein folding and thereby efficient intracellular transport and cell-surface receptor binding. The box one motif of IL3RA is required for JAK interaction and / or activation. IL3RA represents a unique marker for primitive leukemic stem cells. Targeting of IL3RA may be a promising strategy for the preferential ablation of AML cells. Aberrant IL3RA expression is a good marker for monitoring of minimal residual disease. IL3RA is strongly expressed in various leukemic blasts and leukemic stem cells and seems to be an excellent target for the therapy of leukemias. Recent studies have shown that interleukin-3 receptor alpha (CD123) is highly expressed on leukemia stem cells of patients with acute myeloid leukemia, and is correlated with tumor load and poor prognosis. CD123 was highly expressed in the bone marrow of the patients with myelodysplastic syndrome (MDS), significantly correlated with the proportion of bone marrow blasts, and thus might be the marker of MDS malignant clone. IL3RA is also a useful new marker for distinguishing B-cell disorders with circulating villous lymphocytes as its expression is characteristic of typical hairy cell leukemia (HCL) with high sensitivity and specificity.

References

1.Del Giudice I, *et al.* (2004) The diagnostic value of CD123 in B-cell disorders with hairy or villous lymphocytes. Haematologica. 89(3): 303-8. 2.Du X, *et al.* (2007) New immunotoxins targeting CD123, a stem cell antigen on acute myeloid leukemia cells. J Immunother. 30(6): 607-13. 3.Yue LZ, *et al.* (2010) Expression of CD123 and CD114 on the bone marrow cells of patients with myelodysplastic syndrome. Chin Med J (Engl). 123(15): 2034-2037.