



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD123 Protein
Catalog Number: hRP-1041
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human CD123 gene is an interleukin 3 specific subunit of a heterodimeric cytokine receptor. The receptor is comprised of a ligand specific alpha subunit and a signal transducing beta subunit shared by the receptors for interleukin 3 (IL3), colony stimulating factor 2 (CSF2/GM-CSF), and interleukin 5 (IL5). The binding of this protein to IL3 depends on the beta subunit. The beta subunit is activated by the ligand binding, and is required for the biological activities of IL3. Expression level of CD123 on cell surface was demonstrated to be potential biomarkers for various diseases.

Full-length extracellular domain of human CD123 cDNA (19-305 aa, derived from BC035407) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol:	CD123	(IL3RA; IL3R; IL3RA; IL3RX)
Accession Number:	NP_002174	
Species:	Human	
Size:	20 µg / Vial	
Composition:	0.2 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.	
Storage:	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.	

Key References

Yoo,J.,et al., *Opposing regulation of PROX1 by interleukin-3 receptor and NOTCH directs differential host cell fate reprogramming by Kaposi sarcoma herpes virus*. PLoS Pathog. 8 (6), E1002770 (2012)



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Vergez,F.,et al.,*High levels of CD34+CD38low/-CD123+ blasts are predictive of an adverse outcome in acute myeloid leukemia: a Groupe Ouest-Est des Leucemies Aigues et Maladies du Sang (GOELAMS) study.* Haematologica 96 (12), 1792-1798 (2011)

Ko,C.J., *Hypertrophic lupus erythematosus: the diagnostic utility of CD123 staining.* J. Cutan. Pathol. 38 (11), 889-892 (2011)

Applications

1. May be used for in vitro CD123 mediated IL3 signaling regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used for CD123 protein-protein interaction assay.
3. Potential diagnostic biomarker for acute myeloid leukemia and lupus diseases.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFETKEDPNPPIITNLRMKAKAQQLTWDLNRNVTDIECV
KDADYSMPAVNNSYCQFGAISLCEVTNYTVRVANPPFSTWILFPENSGKPWAGAENLTCWIHDV
DFLSCSWAVGPGAPADVQYDLYLNVANRRQQYECLHYKTDAQGTRIGCRFDDISRLSSGSQSSH
ILVRGRSAAFVIPCTDKFVVFVSQIEILTPPNMTAKCNKTHSFMHWKMRSHFNRFYELQIQKR
MQPVITEQVRDRTSFQLLNPGTYTVQIRARERVYEFLSAWSTPQRFECDEEGANTRAWR