Data Sheet (Cat.No.TMPY-02500)

TargetMol

YKL-40/CHI3L1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	Gp39;AW208766;Brp39;chitinase 3 like 1
Protein Construction:	A DNA sequence encoding the extracellular domain of mouse CHI3L1 (Q61362-2) (Met 1-Ala 381) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Tyr 22
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q61362-2
Molecular Weight:	42.3 kDa (predicted); 50 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Chitinase-3-like protein 1 (CHI3L1) is a secreted heparin-binding glycoprotein whose expression is associated with vascular smooth muscle cell migration. CHI3L1 is expressed at high levels in postconfluent nodular VSMC cultures and at low levels in subconfluent proliferating cultures. CHI3L1 is a tissue-restricted, chitin-binding lectin and member of glycosyl hydrolase family 18. In contrast to many other monocyto / macrophage markers, its expression is absent in monocytes and strong induced during late stages of human macrophage differentiation.

Elevated levels of CHI3L1 are associated with disorders exhibiting increased connective tissue turnover, such as rheum atoid, arthritis, osteoarthritis, scleroderma, and cirrhosis of liver, but is produced in cartilage from old donors or patiens with osteoarthritis. CHI3L1 is abnormally expressed in the hippocampus of subjects with schizophrenia and may be involved in the cellular response to various environmental events that are reported to increase the risk of schizophrenia.

Reference

Zhao XZH,et al.(2007) Functional Variants in the Promoter Region of Chitinase 3-Like 1 (CHI3L1) and Susceptibility to Schizophrenia.The American Journal of Human Genetics. 80 (1): 12-18.

Rehli M,et al.(2003) Transcriptional Regulation of CHI3L1, a Marker Gene for Late Stages of Macrophage Differentiation . The Journal of Biological Chemistry. 278: 44058-67.

Nishikawa KC,et al.(2003) gp38k (CHI3L1) is a novel adhesion and migration factor for vascular cells. Experimental Cell Research. 287 (1): 79-87

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