Data Sheet (Cat.No.TMPY-04536)

TargetMol

CLEC14A Protein, Rat, Recombinant (hFc)

General Information

Synonyms:	C-type lectin domain family 14, member A
Protein Construction:	A DNA sequence encoding the rat CLEC14A (NP_001014099.1)(Met1-Thr398) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Glu 22
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	F7FMP6
Molecular Weight:	67.6 kDa (predicted); 110 and 37 kDa (reducing conditions)

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:	> 85 % 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:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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

C-type lectin domain family 14 member A, also known as Epidermal growth factor receptor 5 and CLEC14A, is a member of the C-type lectin domain (CTLD) family that contains one c-type lectin domain and one EGF-like domain. Mouse CLEC14A is a 459 amino acid single-pass type I membrane protein. The superfamily of proteins containing C-type lectin-like domains (CTLDs) is a large group of extracellular Metazoan proteins with diverse functions. The CTLD structure has a characteristic double-loop ('loop-in-a-loop') stabilized by two highly

conserved disulfide bridges located at the bases of the loops, as well as a set of conserved hydrophobic and polar interactions. Members of the C-type lectin/C-type lectin-like domain (CTL/CTLD) superfamily share a common fold and are involved in a variety of functions, such as generalized defense mechanisms against foreign agents, discrimination between healthy and pathogen-infected cells, and endocytosis and blood coagulation. Genome-level studies on human, elegans and melanogaster demonstrated almost complete divergence among invertebrate and mammalian families of CTLD-containing proteins (CTLDcps). The vertebrate CTLDcp families were essentially formed early in vertebrate evolution and are completely different from the invertebrate families. The composition of the CTLDcp superfamily in fish and mammals suggests that large scale duplication events played an important role in the evolution of vertebrates.

Reference

Ebner S, et al. (2003) Evolutionary analysis reveals collective properties and specificity in the C-type lectin and lectin-like domain superfamily. Proteins. 53(1): 44-55.
Zelensky AN, et al. (2005) The C-type lectin-like domain superfamily. Gready JE. FEBS J. 272(24): 6179-217.