# Data Sheet (Cat.No.TMPY-03472)

TargetMol

## CLEC4F Protein, Rat, Recombinant

### General Information

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|---|---|
| Synonyms: | C-type lectin domain family 4, member F |
| Protein Construction: | A DNA sequence encoding the rat CLEC4F(NP_446205.1) (Arg70-Ser550) was expressed with two additional amino acids (Gly & Pro) at the N-terminus. Predicted N terminal: Gly |
| Species: | Rat |
| Expression Host: | HEK293 Cells |
| Accession: | A6IAN7 |
| Molecular Weight: | 53.7 kDa (predicted); 63-68 kDa (reducing condition, due to glycosylation) |

### QC Testing

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|---|---|
| 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: | > 95 % 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

CLEC4F, a member of C-type lectins, was firstly purified from rat liver extract with high binding affinity to fucose, galactose and N-acetylgalactosamine, and un-sialylated glucosphingolipids with GalNAc or Gal terminus. However, the biological functions of CLEC4F have not been elucidated. Histochemical staining showed that mouse CLEC4F (mCLEC4F) is only expressed on F4/8+ cells localized in liver, and is undetectable in bone marrow, spleen, lymph nodes, or other tissues in adult mice. However, mCLEC4F is detected in the liver of embryonic day

11.5 (E11.5), which is 1.5 day earlier than the formation of liver (E1) and is 3.5 day earlier than the formation of bone marrow (E15-16). Moreover, recombinant mCLEC4F.Fc binds to alpha-galactoceramide in a Ca++-dependent manner, and both galactose and ceramide can partially inhibit CLEC4F.Fc binding to alpha-galactoceramide. Interestingly, mCLEC4F-deficient (mCEC4F k/o) mice produced far less cytokines than wild type littermates after intravenous injection ofalpha-galactoceramide. This suggests that mCLEC4F is not only a specific marker for Kupffer cells, but is also critical for the presentation of glycolipid antigen to NKT cells.

Reference

Shie-Liang Edmond Hsieh,et al.(2009) CLEC4F, A Kupffer Cells Specific Marker, Is Critical for Presentation of Alfa-Galactoceromide to NKT Cells. The Journal of Immunology. 182:78.

Ota T,et al.(2004) Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat Genet. 2004 Jan;36(1):40-5.

Bonaldo MF,et al.(1996) Normalization and subtraction: two approaches to facilitate gene discovery. Genome Res. 1996 Sep;6(9):791-806.