Data Sheet (Cat.No.TMPY-00716)

TargetMol

CD89 Protein, Human, Recombinant (His)

General Information

Synonyms:	Fc fragment of IgA receptor;CD89;XXbac-BPG230H20.5;FCAR;FcαRI;FcalphaRI;CTB-61M7.2
Protein Construction:	A DNA sequence encoding the human FCAR (NP_001991.1) (Met1-Asn227) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Gln 22
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P24071-1
Molecular Weight:	25 kDa (predicted); 45.7 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:	≥ 97 % as determined by SDS-PAGE ≥ 95 % as determined by SEC-HPLC.
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

FCAR, also called FcαRI or CD89, is a type I transmembrane receptor for Fc region of IgA which is the most abundant immunoglobulin in mucosal areas but is only the second most common antibody isotype in serum. This receptor is present on the surface of myeloid lineage cells such as neutrophils, monocytes, macrophages, and eosinophils, especially phagocytes located in mucosal areas. Upon ligand IgA binding, FcαRI associates with the FcR γ signaling molecule bearing the immunoreceptor tyrosine-based activation motif (ITAM) through a unique

charge-based mechanism and triggers multiple cell-mediated immune responses. It has been reported that Fc RI is a dual-function receptor that can mediate both inflammatory and anti-inflammatory responses depending on the type of interaction with its ligand. Sustained aggregation of FCAR results in activation of target-cell functions such as antigen presentation and cytokine release. In contrast, Monomeric targeting with serum IgA or with a variety of anti-FcαRI Fab fragments triggers an inhibitory response and additionally induces apoptosis. FcαRI thus play an fundamental role in preventing tumor development and growth, as well as in controlling inflammation.

Reference

Maliszewski, C.R. et al., 1990, J. Exp. Med. 172: 1665-1672.