Data Sheet (Cat.No.TMPY-03883)

TargetMol

CD47 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	OA3;CD47 molecule;IAP;MER6
Protein Construction:	Gln19-Pro139
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q08722-1
Molecular Weight:	40.5 kDa (predicted); 55-65 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Immobilized Human SIRP alpha, His Tag at 1 μg/ml (100 μl/Well) on the plate. Dose response curve for Human CD47, hFc Tag with the EC50 of 5.0 ng/ml determined by ELISA (QC Test). Human CD47, hFc Tag captured on CM5 Chip via Protein A can bind Human Sirpa V2, His Tag with an affinity constant of 13.8 nM as determined in SPR assay (Biacore T200).
Purity:	≥ 95 % as determined by SDS-PAGE ≥ 90 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from 0.22μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

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

CD47 contains 1 Ig-like V-type (immunoglobulin-like) domain and is a receptor for the C-terminal cell binding domain of thrombospondin. It may play a role in membrane transport and signal transduction. CD47 is also a

membrane protein, which is involved in the increase in intracellular calcium concentration that occurs upon cell adhesion to extracellular matrix. It is very broadly distributed on normal adult tissues, as well as ovarian tumors, being especially abundant in some epithelia and the brain. CD47 may play a role in membrane transport and/or integrin dependent signal transduction. It may prevent premature elimination of red blood cells. It also may be involved in membrane permeability changes induced following virus infection. By acting as an adhesion receptor for THBS1 on platelets, CD47 plays a role in both cell adhesion and in the modulation of integrins. It also plays an important role in memory formation and synaptic plasticity in the hippocampus.Cancer ImmunotherapyCo-inhibitory Immune Checkpoint TargetsImmune CheckpointImmune Checkpoint Detection: AntibodiesImmune Checkpoint Detection: ELISA AntibodiesImmune Checkpoint Detection: WB AntibodiesImmune Checkpoint TargetsImmunotherapyTargeted Therapy

Reference

Brown EJ, et al. (2001) Integrin-associated protein (CD47) and its ligands. Trends Cell Biol. 11(3): 130-5.
Oldenborg PA. (2004) Role of CD47 in erythroid cells and in autoimmunity. Leuk Lymphoma. 45(7): 1319-27.
Kaczorowski DJ, et al. (2007) Targeting CD47: NO limit on therapeutic potential. Circ Res. 100(5): 602-3.