Data Sheet (Cat.No.TMPY-02030)

TargetMol

CD82 Protein, Human, Recombinant (His)

General Information

Synonyms:	CD82 molecule;SAR2;R2;KAI-1;4F9;KAI1;C33;TSPAN27;ST6;IA4;GR15
Protein Construction:	A DNA sequence encoding the second extracellular domain of human CD82 (P27701-1) (Gly 111-Leu 228) was fused with a polyhistidine tag at the C-terminus and a signal peptide at the N-terminus. Predicted N terminal: Gly 111
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P27701-1
Molecular Weight:	15 kDa (predicted); 25-33 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:	> 90 % 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 0.33 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

CD82, also known as KAI-1, structurally belongs to tetraspanin family while categorised as metastasis suppressor gene on functional grounds. KAI1/CD82 is localized on cell membrane and form interactions with other tetraspanins, integrins and chemokines which are respectively responsible for cell migration, adhesion and signalling. Downregulation of CD82 expression is associated with the advanced stages of many human cancers

and correlates with the acquisition of metastatic potential. Recent studies suggest that complex mechanisms underlie CD82 loss of function, including altered transcriptional regulation, splice variant production and post-translational protein modifications, and indicate a central role for CD82 in controlling metastasis as a 'molecular facilitator'. The loss of KAI1/CD82 expression in invasive and metastatic cancers is due to a complex, epigenetic mechanism that probably involves transcription factors such as NFkappaB, p53, and beta-catenin. A loss of KAI1 expression is also associated with the advanced stages of many human malignancies and results in the acquisition of invasive and metastatic capabilities by tumour cells. Thus, KAI1/CD82 is regarded as a wide-spectrum tumor metastasis suppressor.

Reference

Malik FA,et al.(2009) KAI-1/CD82, the molecule and clinical implication in cancer and cancer metastasis. Histol Histopathol. 24(4): 519-30.

Liu WM,et al.(2006) KAI1/CD82, a tumor metastasis suppressor. Cancer Lett. 240(2): 183-94.

Tonoli H,et al.(2006) CD82 metastasis suppressor gene: a potential target for new therapeutics? Trends Mol Med. 11(12): 563-70.

Jackson P,et al.(2005) KAI1 tetraspanin and metastasis suppressor. Int J Biochem Cell Biol. 37(3): 530-4.