

Syndecan-4 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	AW108331;syndecan-4;AA959608;Synd4;syndecan 4;ryudocan
Protein Construction:	A DNA sequence encoding the mouse SDC4 (O35988) extracellular domain (Met 1-Val 146) was expressed, fused with a C-terminal polyhistidine tag. Predicted N terminal: Glu 24
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O35988
Molecular Weight:	14.9 kDa (predicted); 28 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:	> 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

SDC4 (Syndecan-4), also known as Syn4, is a transmembrane heparan sulfate proteoglycan that co-operates with integrins during cell-matrix interactions for the assembly of focal adhesions and actin stress fibers and in the phosphorylation of focal adhesion kinase (FAK) on Tyr397. Syndecan-4 plays roles in the formation of focal adhesions and stress fibers. The cytoplasmic domain of syndecan-4 interacts with several signalling and structural proteins, and both extracellular and cytoplasmic domains are necessary for regulated activation of associated

transmembrane receptors. Syndecan-4/SDC4 is a heparan sulfate proteoglycan and works as a coreceptor for various growth factors. SDC4 deficiency limits neointimal formation after vascular injury by regulating vascular smooth muscle cells (VSMCs) proliferation and vascular progenitor cells (VPCs) mobilization. Therefore, SDC4 may be a novel therapeutic target for preventing arterial restenosis after angioplasty.

Reference

- Ikesue M, et al. (2011) Syndecan-4 deficiency limits neointimal formation after vascular injury by regulating vascular smooth muscle cell proliferation and vascular progenitor cell mobilization. *Arterioscler Thromb Vasc Biol.* 31(5): 1066-74.
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- Bass MD, et al. (2002) Cytoplasmic interactions of syndecan-4 orchestrate adhesion receptor and growth factor receptor signalling. *Biochem J.* 368(Pt 1): 1-15.
- Couchman JR, et al. (1999) Syndecan-4 and integrins: combinatorial signaling in cell adhesion. *J Cell Sci.* 112 (Pt 20): 3415-20.

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