

Podoplanin Protein, Human (HEK293, His-Fc)

Cat. No.:	HY-P73378
Synonyms:	Podoplanin; Aggrus; Glycoprotein 36; Gp36; T1-Alpha; T1A; PDPN; GP36
Species:	Human
Source:	HEK293
Accession:	Q86YL7 (M1-K123)
Gene ID:	10630
Molecular Weight:	Approximately 50.2 kDa

PROPERTIES

Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized human Podoplanin at 10 µg/mL (100 µl/well) can bind biotinylated human CLEC1B-His, The EC ₅₀ of biotinylated human CLEC1B-His is 0.4-1.0 µg/mL.
Appearance	Solution
Formulation	Supplied as a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

Podoplanin Protein emerges as a multifaceted regulator, exerting diverse effects on cell migration and adhesion through interactions with various partners. During development, Podoplanin plays a crucial role in the separation of blood and lymphatic vessels by binding to CLEC1B, triggering platelet activation and aggregation. Conversely, its interaction with CD9 attenuates platelet aggregation induced by Podoplanin. The protein, through interactions with MSN or EZR, promotes epithelial-mesenchymal transition (EMT), leading to increased cell migration and invasiveness. Binding with CD44 facilitates directional cell migration in epithelial and tumor cells. In lymph nodes, Podoplanin controls fibroblastic reticular cells (FRCs) adhesion to the extracellular matrix (ECM) and actomyosin contraction by maintaining ERM proteins (EZR, MSN, and RDX) and MYL9 activation. Engagement with CLEC1B promotes FRC relaxation by blocking lateral membrane interactions. Podoplanin also participates in connecting the lymphatic endothelium to the surrounding ECM through its interaction with LGALS8. In keratinocytes, Podoplanin induces morphological changes, increased motility, and decreased cell adhesion. Furthermore, Podoplanin regulates invadopodia stability and maturation in tumor cells, contributing to efficient ECM degradation. The protein is homodimeric and interacts with a range of partners, including CLEC1B, CD9, LGALS8, CD44, MSN, EZR, and CCL21, showcasing its intricate involvement in various cellular processes and signaling pathways. Further

research is crucial to unravel the precise molecular mechanisms and broader implications of Podoplanin in these diverse cellular functions.

Caution: Product has not been fully validated for medical applications. For research use only.

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