

CLDN18-VLPs Protein, Human (HEK293, mCherry)

Cat. No.:	HY-P702247
Synonyms:	Claudin-18
Species:	Human
Source:	HEK293
Accession:	P56856 (M1-V261)
Gene ID:	51208
Molecular Weight:	52.3 kDa

PROPERTIES

AA Sequence	<pre> M S T T T C Q V V A F L L S I L G L A G C I A A T G M D M W S T Q D L Y D N P V T S V F Q Y E G L W R S C V R Q S S G F T E C R P Y F T I L G L P A M L Q A V R A L M I V G I V L G A I G L L V S I F A L K C I R I G S M E D S A K A N M T L T S G I M F I V S G L C A I A G V S V F A N M L V T N F W M S T A N M Y T G M G G M V Q T V Q T R Y T F G A A L F V G W V A G G L T L I G G V M M C I A C R G L A P E E T N Y K A V S Y H A S G H S V A Y K P G G F K A S T G F G S N T K N K K I Y D G G A R T E D E V Q S Y P S K H D Y V </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 µm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. Solubilize for 60 minutes at room temperature with occasional gentle mixing. Avoid vigorous shaking or vortexing.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	CLDN18-VLPs (Claudin 18 virus-like particles) play a crucial role in alveolar fluid homeostasis by regulating the composition of tight junctions in alveolar epithelial cells, impacting ion transport, and solute permeability, potentially through the modulation of actin cytoskeleton organization and beta-2-adrenergic signaling. Essential for lung alveolarization and the maintenance of the paracellular alveolar epithelial barrier, CLDN18-VLPs contribute to epithelial progenitor cell proliferation and organ size regulation by controlling the subcellular localization of YAP1 and restricting its target gene
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transcription. Additionally, CLDN18-VLPs act as a negative regulator of RANKL-induced osteoclast differentiation, possibly by influencing the subcellular distribution of TJP2/ZO-2 and participating in bone resorption in response to calcium deficiency. They mediate the osteoprotective effects of estrogen independently of RANKL signaling pathways. Furthermore, CLDN18-VLPs are implicated in maintaining the alveolar microenvironment homeostasis by regulating pH and subsequent T-cell activation, indirectly contributing to the limitation of *C. neoformans* infection.

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

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