

COCH Protein, Human, Recombinant (His)

General Information

Synonyms:	COCH5B2; COCH-5B2; DFNA9; cochlin
Protein Construction:	A DNA sequence encoding the mature form of human COCH (NP_001128530.1) (Glu 25-Gln 550) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	HEK293 Cells
Accession:	O43405-1
Molecular Weight:	59.4 kDa (predicted); 66, 48 and 18 kDa (reducing conditions)

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:	> 92 % 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

Cochlin, also known as COCH-5B2 and COCH, is a secreted protein that contains one LCCL domain and two VWFA domains. It is an abundant inner ear protein expressed as multiple isoforms. Its function is also unknown, but it is suspected to be an extracellular matrix component. Cochlin and type II collagen are major constituents of the inner ear extracellular matrix, and Cochlin constitutes 70% of non-collagenous protein in the inner ear, the cochlin isoforms can be classified into three subgroups, p63s, p44s and p40s. The expression of cochlin is highly specific

to the inner ear. Eleven missense mutation and one in-frame deletion have been reported in the COCH gene, causing hereditary progressive sensorineural hearing loss and vestibular dysfunction, deafness autosomal dominant type 9 (DFNA9). The co-localization of cochlin and type II collagen in the fibrillar substance in the subepithelial area indicate that cochlin may play a role in the structural homeostasis of the vestibule acting in concert with the fibrillar type II collagen bundles. Defects in COCH may contribute to Meniere disease which is an autosomal dominant disorder characterized by hearing loss associated with episodic vertigo.

Reference

- Ikezono T, et al. (2005) Expression of cochlin in the vestibular organ of rats. *ORL J Otorhinolaryngol Relat Spec.* 67 (5): 252-8.
- Shindo S, et al. (2008) Spatiotemporal expression of cochlin in the inner ear of rats during postnatal development. *Neurosci Lett.* 444(2): 148-52.
- Hosokawa S, et al. (2010) Ultrastructural localization of cochlin in the rat cochlear duct. *Audiol Neurootol.* 15(4): 247-53.

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