

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived human Otolin-1 protein
Lys24-Pro477, with a C-terminal 6-His tag
Accession # A6NHNO

N-terminal Sequence Analysis Lys24

Predicted Molecular Mass 48 kDa

SPECIFICATIONS

SDS-PAGE 84-94 kDa, under reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When **Recombinant Human PLA2G2A** (Catalog # 5374-PL) is immobilized at 1 µg/mL, 100 µL/well, the concentration of **Recombinant Human Otolin-1 His-tag** (Catalog # 10234-OT) that produces 50% of the optimal binding response is 20-100 ng/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

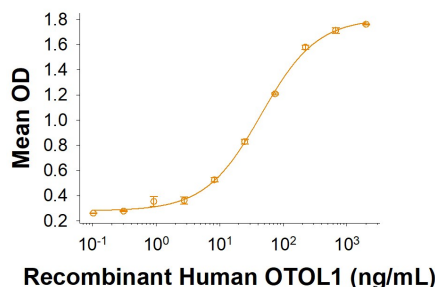
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

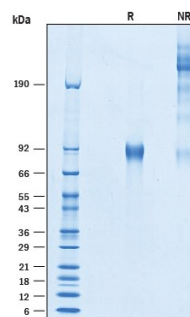
DATA

Binding Activity



When **Recombinant Human PLA2G2A** (Catalog # 5374-PL) is immobilized at 1 µg/mL, 100 µL/well, **Recombinant Human Otolin-1** (Catalog # 10234-OT) binds with an ED₅₀ of 20-100 ng/mL.

SDS-PAGE



2 µg/lane of **Recombinant Human Otolin-1 His-tag** (Catalog 10234-OT) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 84-94 kDa and oligomers, respectively.

BACKGROUND

Otolin (OTOL1), also known as C1qTNF15, is an approximately 65 kDa protein found in the otoconial membrane lining the cochlea and vestibular labyrinth of the inner ear (1). It is secreted by supporting cells of the sensory epithelium. The otoconial membrane contains particles known as otoconia which are composed of glycoproteins and proteoglycans coated with calcium carbonate crystals. Otolin is one of the protein components of otoconia particles, and it is important for otoconia formation as well as for auditory and vestibular function (1). It associates into multimers and disulfide-linked oligomers and also associates with other otoconial proteins including and Otoconin-90 (also known as PLA2G2A, PLA2L, and phospholipase A2 homolog) and Cerebellin-1 (1-3). Otolin contains three collagen-like regions followed by a C1q-like domain at the C-terminus (4). It is extensively glycosylated and has multiple hydroxylated proline residues in the collagenous regions. Human Otolin shares 72% amino acid sequence identity with mouse and rat Otolin.

References:

1. Moreland, K.T. *et al.* (2014) PloS one **9**:e95333.
2. Zhao, X. *et al.* (2017) Dev Biol **304**:508.
3. Yang, H. *et al.* (2011) PLoS ONE, **6**(5):e20498.
4. Tang, Y. T. *et al.* (2005) Genomics **86**:100.