

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
Glu111-Lys540, with an N-terminal 6-His tag
Accession # NP_775736

N-terminal Sequence Analysis His

Predicted Molecular Mass 41.9 kDa

SPECIFICATIONS

SDS-PAGE 55-65 kDa, reducing conditions

Activity Measured by the ability of the immobilized protein to support the adhesion of SW1353 human chondrosarcoma cells. When 5 x 10⁴ cells/well are added to rhCOL23A1 coated plates (10 µg/mL, 100 µL/well), approximately 60%-80% will adhere after 60 minutes at 37° C.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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

PREPARATION AND STORAGE

Reconstitution Reconstitute at 200 µg/mL in sterile 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.

BACKGROUND

Collagen XXIII alpha 1 (sometimes abbreviated COL23A1) is a ~75 kDa type II transmembrane nonfibrillar collagen that is a member of the collagenous transmembrane protein superfamily (1, 2). This family also includes collagens XIII, XVII, XXV and non-collagens with triple-helical regions such as ectodysplasin A, class A macrophage scavenger receptors, and MARCO (2). The human Collagen XXIII mRNA encodes a 540 amino acid (aa) protein containing a 34 aa N-terminal cytoplasmic domain, a 21 aa transmembrane (TM) domain and a 485 aa extracellular domain (ECD). The ECD contains a coiled-coil consensus sequence to aid homotrimerization (aa 64 - 69), a furin cleavage site (aa 105 - 110), a pair of cysteines thought to form intermolecular disulfides (aa 106 and 108), and three collagen domains (1, 3 - 5). The C-terminal 20 aa, including cysteines at aa 525 and 537 of Collagen XXIII, is conserved among TM collagen proteins. Proteolytic cleavage, occurring mainly in the golgi, allows the Collagen XXIII ectodomain to be secreted as a soluble trimer of ~60 kDa subunits (1, 5). Cell surface cleavage can also occur but is slow, presumably due to presence of Collagen XXIII in lipid raft membrane domains (5). The protein database includes three variants of 537, 316 and 309 aa with various portions missing or substituted; all appear to lack TM segments (6). The human Collagen XXIII ECD shares 92%, 93%, 85%, 85% and 84% aa identity with mouse, rat, canine, equine and bovine Collagen XXIII, respectively. Collagen XXIII is concentrated at sites of cell contact in epithelia, and is thought to be an adhesion molecule (2, 4). Its upregulation has been correlated with aggressiveness in transformed cells, particularly in prostate cancer (1, 7).

References:

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4. Koch, M. *et al.* (2006) *J. Biol. Chem.* **281**:21546.
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6. Entrez Accession # EAW53833, EAW53834, and AAH42428.
7. Banyard, J. *et al.* (2007) *Clin. Cancer Res.* **13**:2634.