Recombinant Human Fibulin 5/DANCE
Catalog Number: 3095-FB

**DESCRIPTION**

Source: Chinese Hamster Ovary cell line, CHO-derived
Gln24-Phe448, with a C-terminal 6-His tag
Accession # NP_006320

N-terminal Sequence Analysis: No results obtained: Gln24 predicted

Predicted Molecular Mass: 48.6 kDa

**SPECIFICATIONS**

- **SDS-PAGE**: 60-66 kDa, reducing conditions
- **Activity**: Measured by the ability of the immobilized protein to enhance the adhesion of HUVEC human umbilical vein endothelial cells. When 5 x 10^4 cells per well are added to rhFibulin-5 coated plate, cell adhesion is enhanced in a dose dependent manner after 60 minutes at 37°C. The ED_50 for this effect is typically 0.1-0.4 μg/mL. **Optimal dilutions should be determined by each laboratory for each application.**
- **Endotoxin Level**: <0.1 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 and EDTA. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

- **Reconstitution**: Reconstitute at 100 μg/mL in PBS.
- **Shipping**: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
- **Stability & Storage**:
  - 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**

Fibulin 5, also known as DANCE and EVEC, is a secreted 55 kDa matricellular glycoprotein that plays an important role in elastic fiber network assembly and angiogenesis (1). Mature human Fibulin 5 contains an N-terminal EGF-like domain with an RGD motif, a 44 amino acid (aa) spacer region, five more tandem EGF-like domains, and a 115 aa Fibulin-like C-terminal region (2, 3). Mature human Fibulin 5 shares 95% aa sequence identity with mouse and rat Fibulin 5. Fibulin 5 is expressed by smooth muscle cells and endothelial cells of the developing vasculature as well as by migrating neural crest cells and lung interstitial fibroblasts (2,4). It is down-regulated in the adult vasculature but is re-expressed at aortic branching points, in the uterus, and at sites of mechanical or atherosclerotic injury (2, 3, 5). The RGD motif of Fibulin 5 binds to several cell surface Integrins including αvβ3, αvβ5, αvβ1, and αvβ1 (2, 6, 7). The calcium-dependent binding of Fibulin 5 to elastic fibers serves to anchor cells to the extracellular matrix (8). Fibulin 5 promotes elastic fiber assembly and maturation by organizing Tropoelastin, LTBP-4, and the cross-linking lysyl oxidase-like enzymes LOX L1, 2, and 4 along Fibrillin microfibrils (6, 9-12). In aged mice with decreased tissue elasticity, proteolytic removal of the N-terminal EGF-like domain prevents Fibulin 5 from interacting with Fibrillin-1 microfibrils (10). Fibulin 5 functions as an angiogenesis inhibitor by inhibiting vascular smooth muscle proliferation and migration and by limiting vascular sprouting (5, 13). Depending on the context, Fibulin 5 can function either as a tumor suppressor or enhancer of tumor cell invasiveness (14, 16). Defects in Fibulin 5 expression or function can result in a loss of connective tissue integrity, cardiac elasticity, and ability to remodel the vasculature after injury (8, 5, 15).

**References:**