# Recombinant Human Fibulin 5/DANCE

Catalog Number: 3095-FB

## DESCRIPTION

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| **Source** | Chinese Hamster Ovary cell line, CHO-derived<br>Gln24-Phe448, with a C-terminal 6-His tag<br>Accession # NP_006320 |
| **N-terminal Sequence Analysis** | No results obtained: Gln24 predicted |
| **Predicted Molecular Mass** | 48.6 kDa |

## SPECIFICATIONS

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| **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.<br>**Optimal dilutions should be determined by each laboratory for each application**. |
| **Endotoxin Level** | <0.10 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

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| **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** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 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, α9β1, α4β1, and α5β1 (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-2, 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:**


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