Human Fibulin 5/DANCE Antibody

Monoclonal Mouse IgG_1 Clone # 293904

Catalog Number: MAB3095

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Fibulin 5/DANCE in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 293904
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Fibulin 5/DANCE Gln24-Phe448 Accession # Q9UBX5
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

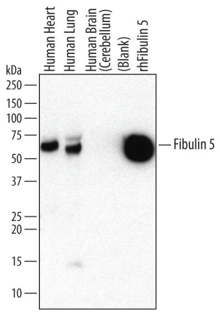
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	Immersion fixed paraffin-embedded sections of human lung

DATA

Western Blot



Detection of Human Fibulin 5/DANCE by Western Blot. Western blot shows lysates of human heart tissue, human lung tissue, and human brain (cerebellum) tissue. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Fibulin 5/DANCE Monoclonal Antibody (Catalog # MAB3095) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). For additional reference, Recombinant Human Fibulin 5 (Catalog # 3095-FB) (5 ng/lane) was included. A specific band was detected for Fibulin 5/DANCE at approximately 55 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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, and the crosslinking lysyl oxidase-like enzymes LOXL1, 2, and 4 along Fibrillin microfibrils (6, 9-11). 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, 12). Fibulin 5 is down-regulated in many malignancies (15). When experimentally re-expressed, however, Fibulin 5 enhances tumor cell invasiveness and cooperates with TGF-β in initiating and promoting epithelial-mesenchymal transition (EMT) (13, 15). 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, 14).

References:

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