

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse NOV/CCN3 in ELISAs.
Source	Monoclonal Rat IgG ₁ Clone # 231226
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse NOV/CCN3 Ser26-Ile354 Accession # Q64299
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 either lyophilized or 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.

Mouse NOV/CCN3 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Mouse NOV/CCN3 Antibody (Catalog # MAB19762)
ELISA Detection	0.5-2.0 µg/mL	Mouse NOV/CCN3 Biotinylated Antibody (Catalog # BAM19761)
Standard		Recombinant Mouse NOV/CCN3 (Catalog # 1976-NV)

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. <ul style="list-style-type: none"> ● 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.

BACKGROUND

NOV, also called CCN3, is one of six CCN (CYR61/CTGF/NOV) secreted proteins which share a common multimodular organization (1-4). NOV/CCN3 contains an N-terminal IGF1R domain that appears to be non-functional and a vWF type C and thrombospondin type I domain which mediate oligomerization and matrix interactions, respectively (1, 2). The C-terminal cysteine knot domain interacts with several partners, including the matrix protein fibulin 1C (5), Notch-1 (6), and CCN2, which it may heterodimerize (2). NOV/CCN3 also interacts with the gap junction protein Connexin43 and mediates suppression of proliferation (7). It also binds the calcium binding protein S100A4 and promotes calcium channel activation (8). The 354 amino acid (aa), 44 kDa human NOV/CCN3 shares 80% aa identity with mouse, rat and canine NOV/CCN3, and 78% aa identity with bovine NOV/CCN3. NOV/CCN3 also shows 38-50% aa identity with other family members including WISP proteins, except for WISP-2/CCN5 which lacks the cysteine knot (1). NOV/CCN3 is widely expressed developmentally, especially in muscle, endothelium, nervous system, adrenal cortex and chondrocytes (1-4). In transformed cells, a 32 kDa N-terminally truncated form lacks the signal sequence is localized to the nucleus. Truncation allows a C-terminal nuclear localization sequence to be active (9). Nuclear NOV/CCN3 acts as a transcriptional repressor but promotes proliferation, presumably by interfering with growth control (9). Full length NOV/CCN3 is a secreted matricellular protein which inhibits cell growth. Interaction of NOV/CCN3 with integrins $\alpha_v\beta_3$ and $\alpha_5\beta_1$ mediates endothelial cell adhesion, induces chemotaxis and promotes angiogenesis (10, 11). Over-expression of NOV/CCN3 downregulates myogenic genes such as MyoD (12).

References:

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