SANTA CRUZ BIOTECHNOLOGY, INC.

Nidogen (331F3): sc-47773

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Basement membranes are the earliest extracellular matrices produced during embryogenesis. They are synthesized and incorporated into the supramolecular architecture of several components, including laminins, Collagen IV, Nidogen and proteoglycans. Nidogen/Entactin, a sulfated glycoprotein, acts as a link between the extracellular matrix molecules Laminin 1 and Collagen Type IV, and thereby participates in the assembly of basement membranes. Nidogen is a highly conserved member of the Nidogen family, which also includes Nidogen-2. Nidogen-2 has a high level of N- and O-glycosylation, and it interacts with Collagens Type I and IV and Perlecan at a comparable level to Nidogen. Nidogen is synthesized and secreted in primary and established mesenchymal peritubular cells and myoepithelial cells, and it affects adhesion of peritubular cells in an autocrine manner. Nidogen is expressed during embryonic and fetal development exclusively in fully developed basement membranes of the ectoderm and is not expressed in the developing endodermal basement membrane or in membranes disrupted during mesoderm formation. Nidogen also cooperates with Laminin 1 to regulate β-casein expression.

REFERENCES

1. Schroen, D.J., et al. 1996. Interaction of mouse thymocytes and a thymocyte-like cell line with the ECM glycoprotein Entactin. Cell. Immunol. 167: 141-149.
2. Kofeldt, E., et al. 1998. Nidogen-2: a new basement membrane protein with diverse binding properties. J. Mol. Biol. 282: 99-109.
3. Aumailley, M., et al. 2000. Altered synthesis of laminin-1 and absence of basement membrane component deposition in integrin β1-deficient embryoid bodies. J. Cell Sci. 113: 259-268.
4. Pujuguet, P., et al. 2000. Nidogen regulates laminin 1-dependent mammary-specific gene expression. J. Cell Sci. 113: 849-858.
5. Miosge, N., et al. 2000. Ultrastructural co-localization of Nidogen and Nidogen-2 with Laminin 1 in murine kidney basement membranes. Histochem. Cell Biol. 113: 15-24.
6. Murshed, M., et al. 2000. The absence of Nidogen does not affect murine basement membrane formation. Mol. Cell. Biol. 20: 7007-7012.
7. Konrad, L., et al. 2000. Mesenchymal Entactin (Nidogen) is required for adhesion of peritubular cells of the rat testis *in vitro*. Eur. J. Cell Biol. 79: 112-120.

CHROMOSOMAL LOCATION

Genetic locus: NID1 (human) mapping to 1q42.3; Nid1 (mouse) mapping to 13 A1.

SOURCE

Nidogen (331F3) is a mouse monoclonal antibody raised against purified preparation of kidney laminins of bovine origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Nidogen (331F3) is recommended for detection of Nidogen of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

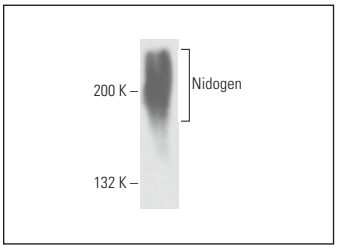
Nidogen (331F3) is also recommended for detection of Nidogen in additional species, including bovine.

Suitable for use as control antibody for Nidogen siRNA (h): sc-43176, Nidogen siRNA (m): sc-43177, Nidogen shRNA Plasmid (h): sc-43176-SH, Nidogen shRNA Plasmid (m): sc-43177-SH, Nidogen shRNA (h) Lentiviral Particles: sc-43176-V and Nidogen shRNA (m) Lentiviral Particles: sc-43177-V.

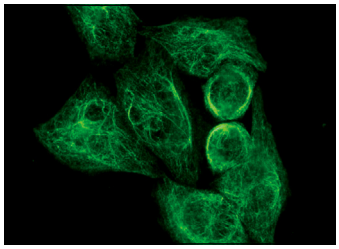
Molecular Weight of Nidogen: 150 kDa.

Positive Controls: mouse heart extract: sc-2254 or mouse placenta extract: sc-364247.

DATA



Nidogen (331F3): sc-47773. Western blot analysis of human recombinant Nidogen.



Nidogen (331F3): sc-47773. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Ma, X., et al. 2009. Difference of gene expression between the central and the peripheral epithelia of the bovine lens. Chin. Med. J. 122: 1072-1080.
2. Bansal, N., et al. 2011. Tumor suppressor protein p53 recruits human Sin3B/HDAC1 complex for down-regulation of its target promoters in response to genotoxic stress. PLoS ONE 6: e26156.
3. Vulinović, M.P., et al. 2022. Light and heavy ferritin chain expression in the liver and kidneys of Wistar rats: aging, sex differences, and impact of gonadectomy. Arh. Hig. Rada Toksikol. 73: 48-61.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.