

# Nidogen (2X59): sc-59870

## 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  $\beta$ -casein expression.

## REFERENCES

- Schroen, D.J. and Cheung, H.T. 1996. Interaction of mouse thymocytes and a thymocyte-like cell line with the ECM glycoprotein Entactin. *Cell. Immunol.* 167: 141-149.
- Kofeldt, E., Sasaki, T., Gohring, W. and Timpl, R. 1998. Nidogen-2: a new basement membrane protein with diverse binding properties. *J. Mol. Biol.* 282: 99-109.
- Aumailley, M., Pesch, M., Tunggal, L., Gaill, F. and Fassler, R. 2000. Altered synthesis of Laminin 1 and absence of basement membrane component deposition in Integrin  $\beta$ 1-deficient embryoid bodies. *J. Cell Sci.* 113: 259-268.
- Pujuguet, P., Simian, M., Liaw, J., Timpl, R., Werb, Z. and Bissell, M.J. 2000. Nidogen regulates Laminin 1-dependent mammary-specific gene expression. *J. Cell Sci.* 113: 849-858.
- Miosge, N., Kother, F., Heinemann, S., Kohfeldt, E., Herken, R. and Timpl, R. 2000. Ultrastructural co-localization of Nidogen and Nidogen-2 with Laminin 1 in murine kidney basement membranes. *Histochem. Cell Biol.* 113: 115-124.
- Murshed, M., Smyth, N., Miosge, N., Karolat, J., Krieg, T., Paulsson, M. and Nischt, R. 2000. The absence of Nidogen does not affect murine basement membrane formation. *Mol. Cell. Biol.* 20: 7007-7012.
- Konrad, L., Albrecht, M., Renneberg, H., Ulrix, W., Hoeben, E., Verhoeven, G. and Anumuller, G. 2000. Mesenchymal Entactin (Nidogen) is required for adhesion of peritubular cells of the rat testis *in vitro*. *Eur. J. Cell Biol.* 79: 112-120.
- Mosge, N., Quondamatteo, F., Klenczar, C. and Herken, R. 2000. Nidogen 1. Expression and ultrastructural localization during the onset of mesoderm formation in the early mouse embryo. *J. Histochem. Cytochem.* 48: 229-238.

## CHROMOSOMAL LOCATION

Genetic locus: Nid1 (mouse) mapping to 13 A1.

## SOURCE

Nidogen (2X59) is a rat monoclonal antibody raised against full length Nidogen of mouse origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Nidogen (2X59) is recommended for detection of Nidogen of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of Nidogen: 150 kDa.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.