

## DESCRIPTION

|                           |                                                                                                                                                                                                               |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                         |
| <b>Specificity</b>        | Detects human Nidogen-1/Entactin in direct ELISAs and Western blots.                                                                                                                                          |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                           |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                     |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Nidogen-1/Entactin<br>Leu29-Lys1114 (Gln1113Arg)<br>Accession # AAH45606                                                                                |
| <b>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

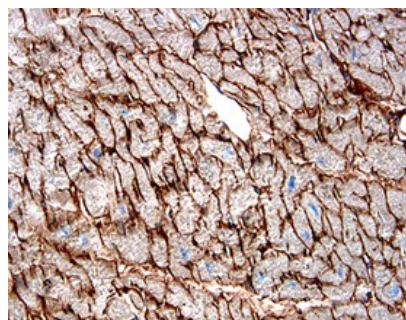
## APPLICATIONS

**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.

|                             | <b>Recommended Concentration</b> | <b>Sample</b>                                            |
|-----------------------------|----------------------------------|----------------------------------------------------------|
| <b>Western Blot</b>         | 0.1 µg/mL                        | Recombinant Human Nidogen-1/Entactin (Catalog # 2570-ND) |
| <b>Immunohistochemistry</b> | 5-15 µg/mL                       | See Below                                                |

## DATA

### Immunohistochemistry



**Nidogen-1/Entactin in Human Heart.** Nidogen-1/Entactin was detected in immersion fixed paraffin-embedded sections of human heart using Goat Anti-Human Nidogen-1/Entactin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2570) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the sarcolemma of cardiomyocytes. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

|                                |                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reconstitution</b>          | Reconstitute at 0.2 mg/mL in sterile PBS.                                                                                                                                                                                                                                                                                                                |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C                                                                                                                       |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

## BACKGROUND

Nidogen-1 (also entactin) is a 150 kDa, secreted, monomeric glycoprotein that serves as a major linking component of basement membranes (1-4). It is synthesized as a 1247 amino acid (aa) precursor with a 28 aa signal sequence and a 1219 aa mature protein. The molecule is modular in structure with five distinct regions. There are three globular domains (G1-3) separated by a mucin region and an extended rod-shaped segment (5-7). The N-terminal globular domain (G1) is 200 aa in length and seemingly unrelated to any known motif (8). The mucin region is nearly 160 aa in length and presumably O-glycosylated (2, 8). G2 and G3 are both approximately 300 aa in length. G2 is described as a Nidogen ( $\beta$ -barrel) domain, while C-terminal G3 assumes a  $\beta$ -propeller configuration (1). The 250 aa rod-shaped segment has multiple EGF-like motifs and two thyroglobulin type 1 domains. Functionally, G1 is reported to bind type IV collagen (2, 7). The mucin region contains a short peptide that ligates  $\alpha_3\beta_1$  integrins (9, 10). G2 interacts with perlecan, and an RGD motif in the rod-shaped segment serves as a binding site for  $\alpha_v\beta_3$  integrins (9, 10). Finally, G3 is associated with laminin binding (2, 7). As a full-length molecule, the multiple extracellular matrix-binding sites of Nidogen-1 are well positioned to serve as anchor sites for basement membrane molecules. Nidogen-1 also undergoes proteolytic processing by at least two MMPs, MMP-7 and MMP-19 (10, 11). While this destroys the integrity of Nidogen-associated matrices, it also generates peptide fragments that are capable of inducing neutrophil chemotaxis and phagocytosis (10). Nidogen-2 is related to Nidogen-1 ( $\approx$  50% aa identity) and shares many of the same adhesive properties as Nidogen-1 (12). Both bind perlecan plus collagens I and IV. Nidogen-2, however, does not bind fibulin-1 or 2, and shows only modest interaction with laminin. Thus, although coexpressed, Nidogen-2 serves as only a partial substitute for Nidogen-1 (2, 12). Human Nidogen-1 shares 85% aa sequence identity with both mouse and rat Nidogen-1, and 88% aa sequence identity with canine Nidogen-1.

## References:

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