

## Product Information

### Nidogen-1 (NID1) human

recombinant, expressed in HEK 293 cells  
cell culture tested

Product Number **D8935**

Storage Temperature  $-20\text{ }^{\circ}\text{C}$

CAS RN 90170-80-2

Synonyms: NID, NID1, NID-1, Entactin

### Product Description

Recombinant human nidogen-1 is expressed in human HEK 293 cells as a glycoprotein with a calculated molecular mass of 133.5 kDa (amino acids 29-1247). This protein is manufactured in human cells, with no serum. The expression system of the human cells allows human-like glycosylation and folding, and often supports higher specific activity of the protein. The protein is produced with no artificial tags.

Nidogen-1 belongs to the nidogens family of glycoproteins.<sup>1</sup> This family consists of nidogen-1 and nidogen-2, both of which are sulfated monomeric glycoproteins.<sup>1</sup> Nidogen-1 is ubiquitously present in the synaptic and extra-synaptic basal lamina.<sup>2</sup> Nidogen-1 is thought to have an important role in the construction of basement membranes by linking between the networks of laminin and collagen IV.<sup>3</sup> Genetic elimination of the nidogen-1 binding site on the mouse laminin  $\gamma$ 1 chain leads to impaired deposition of basement membranes in embryoid bodies.<sup>4</sup> Nidogen 1 and 2 double knockout in mouse fibroblasts led to the loss of all major basal membrane components from the epidermal-collagen interface, and complete abolishment of hemidesmosomes.<sup>5</sup> Supplementation by either recombinant nidogen-1 or -2 compensated for these defects and promoted basal membrane formation.<sup>5</sup>

This recombinant human nidogen-1 product can be used as an attachment factor for cell adherence.

This product is supplied as a powder lyophilized from 0.22  $\mu\text{m}$  filtered solution of PBS.

The biological activity of recombinant human nidogen-1 was tested in culture by measuring the ability of immobilized nidogen-1 to support adhesion of SVEC4-10 mouse vascular endothelial cells.

Purity:  $\geq 95.0\%$  (SDS-PAGE)

Endotoxin:  $\leq 1.00\text{ EU}/\mu\text{g}$  (LAL)

Uniprot: P14543

### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

### Preparation Instructions

Briefly centrifuge the vial before opening. Reconstitute in water to a concentration of 0.1 mg/mL. Do not vortex. This solution can be stored at  $2-8\text{ }^{\circ}\text{C}$  for up to 1 week. For extended storage, it is recommended to store in working aliquots at  $-20\text{ }^{\circ}\text{C}$ .

### Storage/Stability

Store the lyophilized product at  $-20\text{ }^{\circ}\text{C}$ . The product is stable for at least 2 years as supplied.

### References

1. Hortsch, M., and Umemori, H., The Sticky Synapse: Cell Adhesion Molecules and Their Role in Synapse Formation and Maintenance. New York, NY: Springer. p. 66 (2009).
2. Fox, M.A. et al., A synaptic nidogen: developmental regulation and role of nidogen-2 at the neuromuscular junction. *Neural Dev.* **3(24)**, (2008).
3. Timpl, R., and Brown, J.C., Supramolecular assembly of basement membranes. *Bioessays*, **18**, 123-132 (1996).
4. Mayer, U. et al., Structural and genetic analysis of the laminin-nidogen interaction. *Ann. N.Y. Acad. Sci.*, **857**, 130-142 (1998).
5. Nischt, R. et al., Lack of Nidogen-1 and -2 Prevents Basement Membrane Assembly in Skin-Organotypic Coculture. *J. Invest. Dermatol.*, **127(3)**, 545-554 (2007)

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