



Product Information

ENTACTIN Fragment-100

From basement membrane Engelbreth-Holm-Swarm mouse sarcoma

Product No. E-8270

Store at -20°C

Product Description

Basement membrane or basal lamina, is a continuous sheet of extracellular matrix separating different tissues in multicellular organisms. Basement membrane gives support to the adjacent epithelial and endothelial cells and plays important roles in cell differentiation, tissue separation, filtration processes and cell communication. The main component of basement membrane are laminins, collagen type IV, entactin and heparan sulfate proteoglycan^{1,2}.

Entactin is a 150 kDa glycoprotein showing an 85% sequence identity between human and mouse species. It consists of three globular domains: N-terminal G₁, G₂, and Carboxy terminal G₃. G₃ is connected to G₂, by a rod and G₂, is connected to G₁ by a more flexible link³. Some earlier articles indicate only two globular domains⁴. This discrepancy is explained by the finding that guanidine treatment leads to a collapse of domains G₁ and G₂ to form the dumbbell shaped structures observed previously. Posttranslational modifications include several glycosylation sites and one or two sulfated tyrosines. The sequence of Entactin reveals seven EGF-like repeats and one RGD integrin recognition sequence.

Entactin binds to laminin via the G₃ domain with high affinity in a calcium dependant manner⁵. It binds to collagen IV and to the basement membrane heparan sulfate proteoglycan, perlecan, via its G₂ domain⁶. Entactin forms a ternary complex between laminin and collagen IV thus playing an important role in basement membrane structural stability^{7,8}. In addition, it interacts with fibronectin, fibrinogen, fibulin-1 and plasminogen activator. Mouse entactin was reported to promote cell attachment⁹.

Entactin is sensitive to proteolysis. When it is isolated from mouse Engelbreth-Holm-Swarm sarcoma, it is mainly present in the form of proteolytic fragments. Distinct forms of proteolytic fragmentation were described: 130 kDa, 100 kDa, 80 kDa and 40 kDa¹⁰. Some of these fragments have been considered as native entities before the entire structure of Entactin was revealed. These fragments are described as nidogens. We isolate Entactin of 100 kDa (nidogen-100) which is reported to contain binding sites to laminin and collagen IV¹⁰.

Endogenous proteolysis was also indicated for recombinant human entactin⁷.

Product Use

Entactin-100 has been used for cell attachment assays in the concentration range of 2-15 FI/ml⁹ and in the ¹²⁵I-labelled form for binding assays with laminin¹¹ at a concentration of approximately 0.2 Fg/ml.

Entactin may be diluted with sterile TBS for working dilutions but should not be stored as a dilute solution.

Product Storage

We recommend that Entactin be stored frozen at -20°C. The product may be stored as a solution at 2-8°C for up to 7 days or in working aliquots at -20°C. Repeated freeze/thaw cycles are not recommended.

References

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