

## Product Information

### Monoclonal Anti-NG2

#### Clone 132.38

produced in mouse, purified immunoglobulin

Catalog Number **N8912**

#### Product Description

Monoclonal Anti-NG2 (mouse IgG1 isotype) is derived from the hybridoma 132.38 produced by the fusion of mouse myeloma cells (P3XAg8.653) and splenocytes from BALB/c mice immunized with a cell extract of HEK293 cells expressing the D3 domain of rat NG2, amino-acids 1592-2222.<sup>1</sup> The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-NG2 recognizes rat NG2, ~300 kDa.<sup>1</sup> The product is useful in ELISA,<sup>1</sup> immunoblotting,<sup>1</sup> immunoprecipitation and immunocytochemistry.<sup>1</sup>

Proteoglycans (PGs) are a family of proteins composed of different polypeptide chains containing glycosaminoglycan (GAG) modifications. They vary in their cellular locations and are associated with cell surfaces, the extracellular matrix and perineuronal nets. Proteoglycans have diverse structure and functions. In the nervous system, for example, they can regulate axonal growth, guidance, regeneration and can act as cofactors that modulate the response to other guidance factors.<sup>2-4</sup>

NG2, also known as Chondroitin Sulfate Proteoglycan 4 and CSPG4, is a proteoglycan found in the nervous system. It comprises a large integral membrane PG with a core protein of 300 kDa and at least one covalently attached chondroitin sulfate (CS) GAG chain. The extracellular part of the core protein contains three domains: an N-terminal globular domain, a central extended domain and a juxtamembrane domain. In the CNS this protein is expressed mainly on the surfaces of developing and adult oligodendrocyte precursor cells, but is also associated with developing chondrocytes, cardiomyocytes, pericytes and several human tumors.<sup>5-6</sup> NG2 interacts with different proteins including extra cellular molecules (ECM) and growth factors. These interactions occur at different domains of

the protein, for example, type VI collagen binds to the central domain 2 while basic FGF binds to domain 3. NG2 can inhibit axon growth *in vitro* and is found in high levels in CNS injury.<sup>7-8</sup>

#### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~2 mg/ml.

#### Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

#### Storage/Stability

For extended storage, freeze at -20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

Immunoblotting: a working concentration of 0.5-1 µg/ml is determined using neonatal rat brain extract.

**Note:** In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

#### References

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4. Bovolenta, P., and Feraud-Espinosa, I., *Prog. Neurobiol.*, **61**, 113-132 (2000).
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