

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Neuroglycan C/CSPG5 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse Neuroglycan C is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Neuroglycan C/CSPG5 Val31-Gln420 Accession # AAQ04776
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Neuroglycan C (NGC; also CSPG5 and CALEB) is a 120-150 kDa type I transmembrane glycoprotein and member of the neuregulin family of proteins (1, 2). Depending on its expression profile, NGC may be a glycoprotein of 120 kDa, or a chondroitin sulfate (CS) proteoglycan of 150 kDa (2, 3). Human NGC is synthesized as a 566 amino acid (aa) precursor that contains a 30 aa signal sequence, a 393 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 122 aa cytoplasmic region. The ECD contains one CS attachment domain (aa 34-272), with CS attachment at Ser117, one EGF-like domain (aa 371-413), two potential sites for N-linked glycosylation, and twelve potential sites for O-linked glycosylation (4). Splicing variants produce three isoforms for human NGC. Isoform 1 is the long form. Isoform 2 has a deletion of aa 487-513, while isoform 3 has an alternative start site at Met139 and the same deletion. Phosphorylation likely occurs at Ser249, and proteolysis generates a 75 kDa soluble fragment (5). Over aa 31-420, human NGC shares 84% aa identity with mouse NGC. NGC is expressed in nervous tissue and is found on retinal ganglion cells, cerebellar Purkinje cells and hippocampal neurons (6). NGC may function as a growth and differentiation factor involved in neuritogenesis. One study shows that the recombinant ectodomain of NGC core protein enhances neurite outgrowth from rat neocortical neurons in culture via phosphatidylinositol 3-kinase and protein kinase C signaling pathways (7). Another study states that NGC is a novel component of midkine receptors, a heparin-binding growth factor that promotes cell attachment and process extension in oligodendroglial precursor-like cells (3). NGC also acts as a growth factor by directly binding ERBB3 tyrosine kinase and transactivating ErbB2 (1).

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