

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IGSF4B/SynCAM3 in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant human (rh) IGSF4C is observed and less than 2% cross-reactivity with rhIGSF4, rhIGSF4D, and rhIGSF8 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human IGSF4B/SynCAM3 isoform 1 Pro21-Tyr329 Accession # Q8N126
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

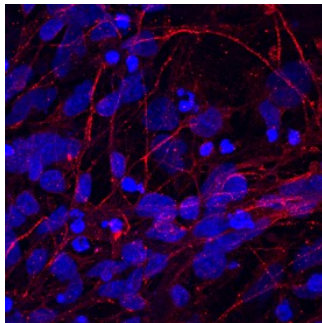
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human IGSF4B/SynCAM3 (Catalog # 3678-S4)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	Human differentiated neuron progenitor cells
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

## DATA

### Immunocytochemistry



**IGSF4B/SynCAM3 in BG01V Human Embryonic Stem Cells.** IGSF4B/SynCAM3 was detected in immersion fixed BG01V human embryonic stem cells differentiated into neurons using Goat Anti-Human IGSF4B/SynCAM3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3678) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. [View our protocol for Fluorescent ICC Staining of Stem Cells on Coverslips.](#)

## 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. *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**

IGSF4B (immunoglobulin superfamily member 4B), also called CADM3, TSLL1, Necl-1 or SynCAM-3, is a neural tissue-specific member of the nectin-like family of immunoglobulin superfamily (1, 2). It is a 48-50 kDa type I transmembrane (TM) glycoprotein that is concentrated at non-junctional contact sites of neuronal axons and glial processes (2, 3). In myelinated peripheral nerve fibers, IGSF4B is concentrated at nodes of Ranvier in contact sites of Schwann cells (2). The 398 amino acid (aa) human IGSF4B contains a 24 aa signal sequence, a 306 aa extracellular domain (ECD), a 21 aa transmembrane domain and a 47 aa cytoplasmic domain. The ECD contains an N-terminal V-type Ig-like domain that is responsible for Ca<sup>++</sup>-independent homophilic and heterophilic interactions with Nectin-1, Nectin-3 or Necl-2 (IGSF-4) in *trans*. It also contains two C2-type Ig-like domains that are responsible for Ca<sup>++</sup>-independent homophilic dimerization in *cis* that is thought to precede *trans* interaction (2, 4, 5). The cytoplasmic domain binds members of the MAGUK guanylate kinase subfamily, such as Dlg3, Pals2 and CASK (2). These activities are thought to play roles in adhesion and architecture at the synapse (2). We have also shown that IGSF4B promotes *in vitro* outgrowth of cortical neurons. Of two known splice variants, one shows an insertion of 34 aa near the mature N-terminus and probably represents a 60 kDa form. A smaller variant shows deletions of aa 185-231, and 281-398, which includes the first C2-type Ig-like domain and the TM segment. The IGSF4B ECD is highly conserved, sharing 95-96% aa identity between human mouse, rat, canine and bovine sequences. The ECD of IGSF4A, B, C and D proteins share 35-50% aa identity.

**References:**

1. Fukuhara, H. *et al.* (2001) *Oncogene* **20**:5401.
2. Kakunaga, S. *et al.* (2005) *J. Cell Sci.* **118**:1267.
3. Fukami, T. *et al.* (2003) *Gene* **323**:11.
4. Shingai, T. *et al.* (2003) *J. Biol. Chem.* **278**:35421
5. Dong, X. *et al.* (2006) *J. Biol. Chem.* **281**:10610.