# Human Semaphorin 4G Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5840

## DESCRIPTION

| | |
|---|---|
| **Species Reactivity** | Human |
| **Specificity** | Detects human Semaphorin 4G in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse (rm) Semaphorin 4G is observed and less than 1% cross reactivity with recombinant human (rh) Semaphorin 3B, rhSemaphorin 4A, and rhSemaphorin 4C is observed. |
| **Source** | Polyclonal Sheep IgG |
| **Purification** | Antigen Affinity-purified |
| **Immunogen** | Mouse myeloma cell line NS0-derived recombinant human Semaphorin 4G<br>Val18-Leu675<br>Accession # Q9NTN9 |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

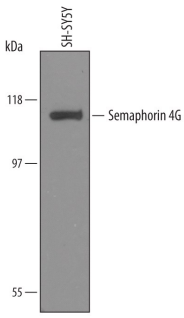
## APPLICATIONS

**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 |
|---|---|---|
| **Western Blot** | 1 µg/mL | See Below |
| **Immunohistochemistry** | 5-15 µg/mL | Perfusion-fixed frozen sections of mouse neural tube |

## DATA

### Western Blot




**Detection of Human Semaphorin 4G by Western Blot.** Western blot shows lysates of SH-SY5Y human neuroblastoma cell line. PVDF Membrane was probed with 1 µg/mL of Sheep Anti-Human Semaphorin 4G Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5840) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Semaphorin 4G at approximately 115 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 8.

## PREPARATION AND STORAGE

| | |
|---|---|
| **Reconstitution** | Reconstitute at 0.2 mg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |



bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

# Human Semaphorin 4G Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5840

## BACKGROUND

Semaphorin 4G (Sema4G) is the least characterized of the seven known Class 4 transmembrane semaphorin glycoproteins (1). Class 4 semaphorins have multiple roles in cell attraction or repulsion. These include development of nerve pathways in the brain, promoting or inhibiting proliferation, and in some cases organizing immune cell interactions. Receptors include transmembrane plexins, but alternate receptors, such as CD72 for Sema4D and TIM-2 for Sema4A, have been identified (2, 3). The 838 amino acid (aa) human Sema4G precursor contains a 17 aa signal sequence, a 658 aa extracellular domain (ECD) containing sema and C2-type immunoglobulin domains, a 21 aa transmembrane domain, and a 142 aa cytoplasmic domain with one Ser/Thr phosphorylation site (4). The human Sema4G ECD shares 90%, 92%, 93%, 93% and 92% aa identity with mouse, rat, equine, bovine and canine Sema4G, respectively. It also shares 42% aa identity with Sema4C, the most closely related semaphorin. Two additional isoforms have been reported: an 843 aa form contains a 5 aa insert at aa 542, while a 458 aa form diverges at aa 450 near the end of the Sema domain (5). Sema4G mRNA is expressed early in development in the central and peripheral nervous systems and in sensory organs such as retina, cochlea, vomeronasal organ and olfactory epithelium. In adults, Sema4G mRNA is found in predominantly in the liver, but is also detected in the kidneys and brain. Elevated Sema4G mRNA expression was found in mouse kidney during Plasmodium yoelii infection (6). Sema4G was also identified in a screen for genes that are downregulated in human colorectal cancer (7).

**References:**

1. Li, H. *et al.* (1999) Mech. Dev. **87**:169.
2. Halloran, M.C. and M.A. Wolman (2006) Curr. Opin. Cell Biol. **18**:533.
3. Suzuki, K. *et al.* (2008) Nat. Immunol. **9**:17.
4. Swissprot Accession # Q9NTN9.
5. Entrez Accession # EAW49803, EAW49802.
6. Lao, A.O.T. *et al.* (2001) J. Immunol. **166**:1945.
7. Wang, X. *et al.* (2008) Hepatogastroenterology **55**:2039.



bio-techne®
**Global** bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
**USA** TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
**Europe | Middle East | Africa** TEL +44 (0)1235 529449