

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse and rat Semaphorin 4C in Western blots. In direct ELISAs, approximately 20% cross-reactivity with recombinant human Semaphorin 4C and less than 5% cross-reactivity with recombinant mouse (rm) Semaphorin 4B, rmSemaphorin 4F, and Semaphorin 4G is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Semaphorin 4C Glu22-Gly664 Accession # Q64151
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

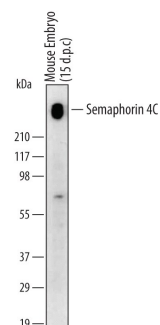
APPLICATIONS

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
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	50 µg/mL	See Below

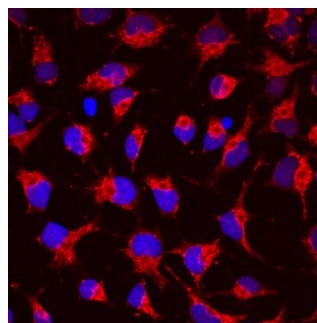
DATA

Western Blot



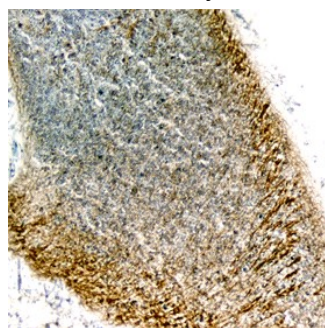
Detection of Mouse Semaphorin 4C by Western Blot (Non-Reducing). Western blot shows lysates of mouse embryo (15 d.p.c.) tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Mouse/Rat Semaphorin 4C Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6120) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Semaphorin 4C at approximately 240 kDa (as indicated). This experiment was conducted under non-reducing conditions and using *Immunoblot Buffer Group 1*.

Immunocytochemistry



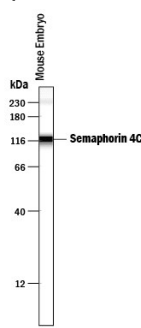
Semaphorin 4C in Rat Cortical Stem Cells. Semaphorin 4C was detected in immersion fixed rat cortical stem cells using Sheep Anti-Mouse/Rat Semaphorin 4C Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6120) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Immunohistochemistry



Semaphorin 4C in Mouse Embryo. Semaphorin 4C was detected in perfusion fixed frozen sections of mouse embryo (13 d.p.c.) using Sheep Anti-Mouse/Rat Semaphorin 4C Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6120) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to neuronal processes of the developing cerebellum. View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

Simple Western



Detection of Mouse and Rat Semaphorin 4C by Simple Western™. Simple Western lane view shows lysates of mouse embryo tissue (15 d.p.c.), loaded at 0.2 mg/mL. A specific band was detected for Semaphorin 4C at approximately 117 kDa (as indicated) using 50 µg/mL of Sheep Anti-Mouse/Rat Semaphorin 4C Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6120) followed by 1:50 dilution of HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system. Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.



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. *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. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Sema4C (Semaphorin 4C; also Sema I and M-SemaF) is a 100-105 kDa, class IV member of the semaphorin family of proteins. It is expressed by precursors to neurons and myocytes, and may regulate their differentiation into mature forms. Mature mouse Sema4C is a type I transmembrane glycoprotein that is 814 amino acids (aa) in length. It contains a 644 aa extracellular region (aa 21-664) that is characterized by the presence of one Sema domain (aa 30-497), a PSI region (aa 499-552), and an Ig-like C2-type domain (aa 557-645). The cytoplasmic region interacts with PZD-domain containing proteins. Over aa 21-664, mouse Sema4C shares 85% and 95% aa identity with human and rat Sema4C, respectively.