Human Brorin/VWC2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF6147

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Brorin in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse Brorin is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Brorin/VWC2 Ser28-Met325 Accession # Q2TAL6
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.

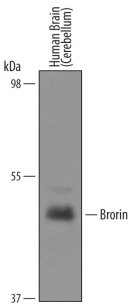
APPLICATIONS

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
Immunohistochemistry	5-15 µg/mL	See Below

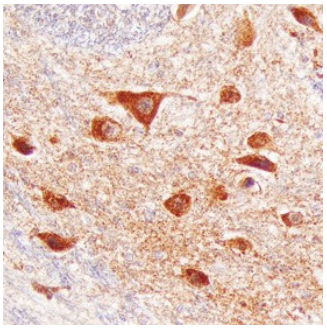
DATA

Western Blot



Detection of Human Brorin/VWC2 by Western Blot. Western blot shows lysates of human brain (cerebellum) tissue. PVDF Membrane was probed with 1 µg/mL of Sheep Anti-Human Brorin/VWC2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6147) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Brorin/VWC2 at approximately 46kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 8.

Immunohistochemistry



Brorin/VWC2 in Human Brain. Brorin/VWC2 was detected in immersion fixed paraffin-embedded sections of human brain (medulla) using Sheep Anti-Human Brorin/VWC2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6147) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). 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 neurons. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

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.** ● 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

Brorin (brain-specific chordin-like protein), also called VWC2, is an ~46 kDa glycoprotein that is a member of the Chordin family of secreted BMP regulators (1-3). The human Brorin cDNA encodes 325 amino acids (aa) including a 27 aa signal sequence and a 298 aa secreted mature protein with two VWFC domains. These domains contain a pattern of 10 cysteine residues that is conserved in other family members, with the remaining aa sequence sharing little identity (1). Human Brorin shares 90%, 91%, and 95% aa sequence identity with mouse, rat, and equine Brorin, respectively. It also shares aa identity with VWC2L (Brorin-like) of 37% overall and 62% within the VWFC domains (4). Brorin is predominantly expressed in embryonic and adult neural tissues in the mouse (1). Expression of Brorin mRNA is concentrated in neurons within the diencephalon and medulla oblongata but is not detected in the developing cerebral cortex (1). Brorin binds and antagonizes BMPs, interacting via the VWFC domains (1-3). It promotes neurogenesis in mouse neural precursors (1). Knockdown of Brorin in zebrafish embryos results in morphological abnormalities in the brain and eye (1, 4).

References:

1. Koike, N. *et al.* (2007) J. Biol. Chem. **282**:15843.
2. Zhang, J-L. *et al.* (2007) J. Biol. Chem. **282**:20002.
3. Fujisawa, T. *et al.* (2009) Biochem. Biophys. Res. Commun. **385**:215.
4. Miwa, H. *et al.* (2009) FEBS Lett. **583**:3643.