Human/Mouse Doc2α Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7904

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse Doc2α in Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human Doc2β is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Doc2α Met1-Lys114 (Gly48Ser) Accession # Q14183
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 either lyophilized or as a 0.2 μm filtered solution in PBS.

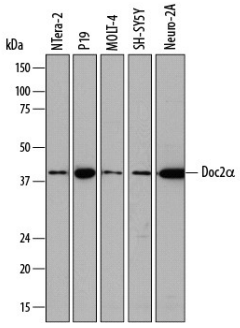
APPLICATIONS

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	2 µg/mL	See Below

DATA

Western Blot



Detection of Human and Mouse Doc2α by Western Blot. Western blot shows lysates of NTera-2 human testicular embryonic carcinoma cell line, P19 mouse embryonal carcinoma cell line, MOLT-4 human acute lymphoblastic leukemia cell line, SH-SY5Y human neuroblastoma cell line, and Neuro-2A mouse neuroblastoma cell line. PVDF membrane was probed with 2 µg/mL of Sheep Anti-Human Doc2α Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7904) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for Doc2α at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
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

DOC2A/Doc2α (Double C2-like domain containing protein alpha) is a 44 kDa (predicted) monomeric member of the C2 domain-containing protein family of molecules. It is expressed in both neurons and mast cells, and appears to serve as an intracellular Ca^{++} sensor protein that regulates secretory vesicle release. In neurons, Doc2α is normally bound to synaptic vesicles and interacts with Munc13-1 to promote secretory vesicle exocytosis through the cell membrane. In mast cells, a similar process occurs that involves Munc13-4 instead of Munc13-1. Human Doc2α is 400 amino acids (aa) in length. It contains a Mid domain (aa 13-37) that binds Munc13-1, followed by one C2 domain that binds Ca^{++} and lipid (aa 91-195), and a second C2 domain that binds SNAP25 (253-356). There is one potential alternative start site 16 aa upstream of the standard site. Over aa 1-114, human Doc2α shares 90% aa sequence identity with mouse Doc2α. Human DOC2B is the product of a separate gene, and shares no meaningful aa sequence identity (< 30%) with human Doc2α.

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