Mouse DLL4 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1389

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse DLL4 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant human DLL4 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse DLL4 Ser28-Pro525 Accession # BAB18580
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.

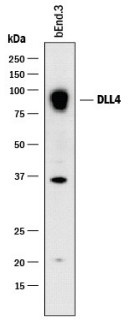
APPLICATIONS

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	2 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below

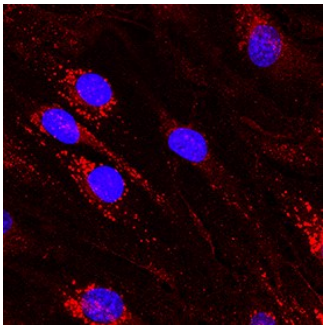
DATA

Western Blot



Detection of Mouse DLL4 by Western Blot. Western blot shows lysates of bEnd.3 mouse endothelioma cell line. PVDF membrane was probed with 2 µg/mL of Goat Anti-Mouse DLL4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1389) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for DLL4 at approximately 90 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunocytochemistry



DLL4 in bEnd.3 Mouse Cell Line. DLL4 was detected in immersion fixed bEnd.3 mouse endothelioma cell line using Goat Anti-Mouse DLL4 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1389) 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 Cells on Coverslips.

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.

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BACKGROUND

Delta-Like protein 4 (DLL4) is a type I membrane protein belonging to the Delta/Serrate/Lag2 (DSL) family of Notch ligands (1). Notch signaling is an evolutionarily conserved pathway that controls cell fate and is required in multiple developmental processes including vascular development, hematopoiesis, somatogenesis, myogenesis, and neurogenesis (2-4). Dysregulation in the Notch pathway is associated with various human diseases. In mammals, four Notch homologs (Notch 1 to 4) and five ligands (DLL 1, 3 and 4, Jagged 1 and 2) have been identified. Notch ligands are transmembrane proteins with a DSL motif necessary for Notch binding, tandem EGF repeats, a transmembrane region and a short intracellular domain (ICD). Notch ligands are categorized into two subfamilies based on the presence of an extracellular cysteine-rich domain and insertions that interrupt some EGF repeats in the Jagged but not the Delta ligand family. Interactions of Notch receptors with their ligands results in reciprocal Regulated Intramembrane Proteolysis (RIP) (4). RIP is a mechanism for transmembrane signal transduction that involves the sequential processing by A Disintegrin Metalloprotease (ADAM) and then by Presenilin/γ-Ssecretase, resulting in shedding of the extracellular domains and the generation of the soluble ICD signaling fragments, respectively. The Notch ICD translocates to the nucleus and interacts with transcriptional coactivators, resulting in the transcription of target genes. The ICDs of the Notch ligands have also been shown to translocate to the nucleus where they may have a signaling function (5, 6). DLL4 is expressed highly and selectively within the arterial endothelium and has been shown to function as a ligand for Notch 1 and Notch 4. Human and mouse DLL4 share 86% amino acid sequence identity (1).

References:

1. Shutter, J.R. *et al.* (2000) Genes Dev. **14**:1313.
2. Iso, Tatsuya *et al.* (2002) Arterioscler. Thromb. Vasc. Biol. **23**:543.
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4. Baron, M. (2002) Semin. Cell Dev. Biol. **14**:113.
5. Ikeuchi, T. and S.S. Sisodia (2003) J. Biol. Chem. **278**:7751.
6. Bland, C.E. *et al.* (2003) J. Biol. Chem. **278**:13607.

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