

# Notch Receptor Interaction Antibody Sampler Kit

✓ 1 Kit  
 (9 x 20 µl)



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**For Research Use Only. Not For Use In Diagnostic Procedures.**

Products Included	Product #	Quantity	Mol. Wt.	Isotype
ADAM9 (D64B5) Rabbit mAb	4151	20 µl	100–115, 75–80 kDa	Rabbit IgG
DLL1 Antibody	2588	20 µl	82 kDa	Rabbit IgG
DLL3 (G93) Antibody	2483	20 µl	65 kDa	Rabbit IgG
DLL4 Antibody	2589	20 µl	75–80 kDa	Rabbit IgG
Jagged1 (28H8) Rabbit mAb	2620	20 µl	180 kDa	Rabbit IgG
Jagged2 (C23D2) Rabbit mAb	2210	20 µl	150 kDa	Rabbit IgG
Numb (C29G11) Rabbit mAb	2756	20 µl	72, 74 kDa	Rabbit IgG
RBPSUH (D10A4) XP® Rabbit mAb	5313	20 µl	61 kDa	Rabbit IgG
TACE (D22H4) Rabbit mAb	6978	20 µl	135 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

See [www.cellsignal.com](http://www.cellsignal.com) for individual component applications, species cross-reactivity, dilutions and additional application protocols.

**Description:** The Notch Receptor Interaction Antibody Sampler Kit provides an economical means to evaluate Notch signaling. The kit includes enough antibody to perform two western blot experiments with each primary antibody.

**Background:** Notch signaling is activated upon engagement of the Notch receptor with its ligands, the Delta, Serrate, Lag2 (DSL) single-pass type I membrane proteins. DSL proteins contain multiple EGF-like repeats and a DSL domain that is required for binding to Notch (1,2). Five DSL proteins have been identified in mammals: Jagged1, Jagged2, Delta-like (DLL) 1, 3, and 4 (3). Ligand binding to the Notch receptor results in two sequential proteolytic cleavages of the receptor by the ADAM protease and the  $\gamma$ -secretase complex. The intracellular domain of Notch is released and then translocates to the nucleus where it activates transcription. Notch ligands may also be processed in a similar manner, suggesting bi-directional signaling through receptor-ligand interactions (4-6).

TNF- $\alpha$  converting enzyme (TACE), also known as ADAM17, is a transmembrane metalloprotease that plays a key role in the cleavage of a number cell surface molecules in a process known as “shedding”. TACE is abundantly expressed in many adult tissues, but in fetal development, expression is differentially regulated (7). TACE activates Notch in a ligand-independent manner and has been shown to play a role in the development of the *Drosophila* nervous system (8).

**Recombining Binding Protein, SUppressor of Hairless (RBPSUH)**, also termed RBP-J or CSL, is the DNA-binding component of the transcription complex regulated by canonical Notch signaling. In the absence of Notch activation, RBPSUH suppresses target gene expression through interactions with a co-repressor complex containing histone deacetylase. Upon activation of Notch receptors, the Notch intracellular domain (NICD) translocates to the nucleus and binds to RBPSUH. This displaces the co-repressor complex and replaces it with a transcription activation complex that includes Mastermind-like (MAML) proteins and histone acetylase p300, leading to transcriptional activation of Notch target genes (9-11).

Numb contains an amino-terminal phosphotyrosine-binding (PTB) domain and carboxy-terminal endocytic binding motifs for  $\alpha$ -adaptin and EH (Eps15 homology) domain-containing proteins, indicating a role in endocytosis (12,13). There are four mammalian Numb splicing isoforms that are differentially expressed and may have distinct functions (14-16). Numb acts as a negative regulator of Notch signaling by promoting ubiquitination and degradation of Notch (17). The protein is asymmetrically segregated into one daughter cell during cell division, producing two daughter cells with different responses to Notch signaling and different cell fates (18,19).

**Specificity/Sensitivity:** ADAM9 (D64B5) Rabbit mAb, DLL4 Antibody, Jagged1 (28H8) Rabbit mAb, Jagged2 (C23D2) Rabbit mAb, Numb (C29G11) Rabbit mAb, RBPSUH (D10A4) XP® Rabbit mAb, and TACE (D22H4) Rabbit mAb recognize endogenous levels of total respective protein. DLL1

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibodies.

**Recommended Antibody Dilutions:**  
 Western blotting 1:1000

Please visit [www.cellsignal.com](http://www.cellsignal.com) for validation data and a complete listing of recommended companion products.

Antibody recognizes only transfected levels of DLL1 protein. It does not recognize transfected levels of rat DLL3 or human DLL4. DLL3 (G93) Antibody recognizes only transfected levels of DLL3 protein. It does not recognize transfected levels of rat DLL1 or human DLL4. Jagged1 (28H8) Rabbit mAb does not cross-react with Jagged2. Jagged2 (C23D2) Rabbit mAb does not cross-react with Jagged1.

**Source/Purification:** Monoclonal antibodies are produced by immunizing animals either with a recombinant protein specific to the amino terminus of human TACE protein or with a synthetic peptide corresponding to residues surrounding Glu1140 (intracellular region) of human Jagged1 protein, residues surrounding Ala117 of human Jagged2 protein, residues surrounding Ala570 of human Numb protein, or residues near the carboxy terminus of human ADAM9 protein or residues surrounding Gln110 of human RBPSUH protein. Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala627 of human DLL1 protein, residues surrounding Gly93 of mouse DLL3 protein, residues surrounding Leu617 of human DLL4 protein. Polyclonal antibodies are purified by protein A and peptide affinity chromatography.

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**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

## Background References:

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