Rat Jagged 1 Alexa Fluor® 488-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF599G
100 µg

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat Jagged 1 in ELISAs and Western blots. In sandwich ELISAs, approximately 15% cross-reactivity with recombinant human (rh) Jagged 1 is observed, and less than 0.3% cross-reactivity with rhJagged 2 and recombinant mouse Jagged 2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Jagged 1 Ser32-Asp1068 (Gly57-Arg59 del, Asp63Thr, Arg64Leu, and Val-Arg-Pro-Tyr ins before Lys69) Accession # Q63722
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Neutralization	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Rat Jagged 1 was the first ligand for Notch identified in mammals. Since both the ligands and receptors are transmembrane proteins, direct cell-cell interactions are thought to be required for activating Notch signaling. Jagged 1 is synthesized as a precursor protein that contains a 21 aa signal sequence, a 1048 aa extracellular region, a 25 aa transmembrane (TM) segment and a short, 226 aa cytoplasmic domain. The large extracellular region has a DSL (Delta, Serrate, Lag-2 consensus sequence) domain followed by 16 EGF-like repeats, and a cysteine-rich (CR) region (1). The extracellular region of rJagged 1 binds to multiple Notch receptors on the cell surface as well as in solid phase binding studies. The DSL motif is necessary for binding to Notch receptors and the EGF repeats modulate the affinity of the interaction with Notch receptors (2). Notch signaling is implicated in many developmental processes in a variety of cell types. Jagged-Notch signaling specifies cell fate, regulates pattern formation, defines boundaries between different cell types, and modulates cell proliferation and differentiation. Some specific areas where Jagged is involved include hematopoiesis, myogenesis, neurogenesis and development of the vasculature (3). For instance soluble, non-transmembrane forms of Jagged 1 influence behavior in fibroblast cells leading to characteristics exhibited by endothelial cells during angiogenesis (4). Soluble Jagged 1 is also capable of maintaining the survival and enhancing the expansion of human stem cells that are capable of reconstituting hematopoietic lineages *in vivo* (5). Furthermore, Jagged 1 is implicated in human disease: Alagille syndrome, an autosomal dominant disorder characterized by defects in liver, heart, eye, skeletal, craniofacial tissues, and kidney, is caused by mutations in Jagged 1 (6). Depending on cell types and how soluble forms of the ligand are presented, ligand binding can result in activation or inhibition of Notch signaling (7). Rat Jagged 1 shows 98% and 99% aa identity to human and mouse Jagged 1 extracellular domains respectively. Relative to the extracellular region of rat Jagged 2, the aa identity is 58%.

PRODUCT SPECIFIC NOTICES

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