

# Monoclonal Anti-human/mouse Jagged 2-Phycoerythrin

Catalog Number: FAB1726P

Lot Number: ABGY01

100 Tests

## Reagents Provided

**Phycoerythrin (PE)-conjugated mouse monoclonal anti-human/mouse Jagged 2:** Supplied as 25 µg of antibody in 1 mL saline containing up to 0.5% BSA and 0.1% sodium azide.

**Clone #:** 241002

**Isotype:** mouse IgG<sub>2B</sub>

## Reagents Not Provided

- Flow Cytometry Staining Buffer (Catalog # FC001) or other BSA-supplemented saline buffer.

## Storage

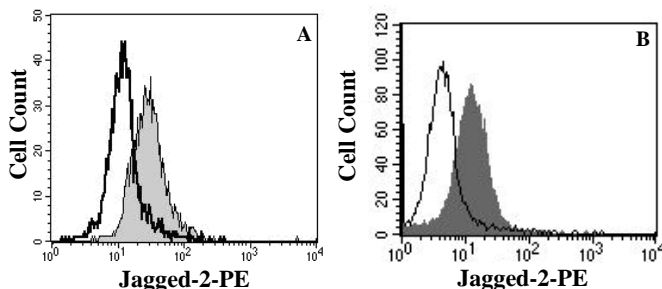
Reagents are stable for **twelve months** from the date of receipt when stored in the dark at 2° - 8° C.

## Intended Use

Designed to quantitatively determine the percentage of cells bearing Jagged 2 within a population and qualitatively determine the density of Jagged 2 on cell surfaces by flow cytometry.

## Product Description

This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, NS0-derived, recombinant human Jagged 2 (aa 1 - 307) extracellular domain. The IgG fraction of the tissue culture supernatant was purified by Protein G affinity chromatography. The purified antibody was then conjugated to PE fluorochrome. Cell surface expression of Jagged 2 is determined by flow cytometry using 488 nm wavelength excitation and monitoring emitted fluorescence with a detector optimized to collect peak emissions at 565 - 605 nm.



A) HUVECs or B) mouse D3 cells, were stained with PE-conjugated anti-human/mouse Jagged 2 (Catalog # FAB1726P, filled histograms) or PE-conjugated isotype control (Catalog # IC0041P, open histograms).

## Background Information

Human Jagged 2 is a 131 kDa (predicted) type 1 transmembrane protein belonging to the Delta/Serrate/Lag2 (DSL) family of ligands. This family activates LIN12/Notch proteins and thereby regulates cell fate determination during development.<sup>1-5</sup> There are two isoforms of human Jagged 2, named long and short. The short form lacks a splicing variant region (aa 421 - 461) that is present in the long form of the protein. Human Jagged 2 shares 90% and 87% aa sequence identity with mouse and rat Jagged 2, respectively. During murine embryonic development, Jagged 2 is predominantly expressed in the fetal thymus, epidermis, foregut, dorsal root ganglia, and inner ear.<sup>2</sup> In 2 week old mice, the Jagged 2 transcript is most abundant in heart, lung, thymus, skeletal muscle, brain, and testis.<sup>2</sup> Functionally, it is suggested that Jagged 2 engages the Notch1 pathway of signal transduction.<sup>2</sup> It is involved in the development of the mammalian limb, branchial arches, central and peripheral nervous systems, T cell lineage differentiation, natural killer cells, and the establishment of functional natural killer cell lines.<sup>3,5,6</sup>

## References

- Shawber, C. *et al.* (1996) *Dev. Biol.* **180**:370.
- Luo, B. *et al.* (1997) *Mol. Cell. Biol.* **17**:6057.
- Valsecchi, V. *et al.* (1997) *Mech. Dev.* **69**:203.
- Schickwann, T. *et al.* (2000) *Blood* **96**:950.
- DeHart, S. *et al.* (2005) *Blood* **105**:3521.
- de La Coste, A. & A.A. Freitas (2006) *Immunol. Lett.* **102**:1.

## Flow Cytometry Validation

This antibody has been tested for flow cytometry using HUVECs and mouse D3 cells.

- Cells may be Fc-blocked with 1 µg of human IgG/10<sup>5</sup> cells for 15 minutes at room temperature. Do not wash excess blocking IgG from this reaction.
- After blocking, 10 µL of conjugated antibody was added to up to 1 x 10<sup>5</sup> cells and incubated for 30 minutes at room temperature.
- Unbound antibody was removed by washing the cells twice in Flow Cytometry Staining Buffer (Catalog # FC001). Note that whole blood requires a RBC lysis step at this point using Flow Cytometry Human Lyse Buffer (Catalog # FC002).
- The cells were resuspended in Flow Cytometry Staining Buffer for final flow cytometric analysis. As a control for this analysis, cells in a separate tube should be treated with PE-labeled mouse IgG<sub>2B</sub> antibody. This procedure may need to be modified, depending upon the cell type and final utilization. Individual users may need to titrate to determine the optimal reagent amount for their specific use.

**Warning:** Contains sodium azide as a preservative - sodium azide may react with lead and copper plumbing to form explosive metal azides. Flush with large volumes of water during disposal.