Phospho-Jak3 (Tyr980/981) (E10) rabbit mAb

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#2471

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

Applications	Detection	Clonality	Isotype
Flow Cytometry,WB	Anti-Rabbit IgG	Monoclonal	Rabbit IgGk

Format: Unconjugated

Cross Reactivity: Predicted to work with mouse, rat and other homologues.

Formulation: 1X PBS, 0.02% NaN3, 50% glycerol, 0.1% BSA

Preparation: Protein A+G

Reactivity: Human

Recommended Usage: For flow cytometric staining, the suggested use of this reagent is 5 µL per million cells or 5 µL per 100 µL of staining volume. It is recommended that the reagent be titrated for optimal performance for each application. See product image legends for additional information.

Immunogen: A synthetic phospho-peptide corresponding to residues surrounding Tyr980/981 of human Jak3

Description: Members of the Janus family of tyrosine kinases (Jak1, Jak2, Jak3, and Tyk2) transmit information from extracellular chemical signals to the nucleus resulting DNA transcripotion (1). Binding of ligands including cytokines to their specific transmembrane receptors activate associated JAKs. Subsequently, activated JAKs (Janus kinases) phosphorylate tyrosine residues on the receptor, creating docking sites for latent STAT proteins (Signal Transducer and Activator of Transcription). After recruitment of STAT to the receptor, they are also phosphorylated by JAKs. Activated STATs migrate to the nucleus of the cell and promote gene transcription or induction.(2-4). In mammals the JAK/STAT family consists of four JAK members, JAK1, JAK2, JAK3 and TYK2 and seven STAT members, STAT1, STAT2, STAT3, STAT4, STAT5a, TAT5b, STAT6. The JAKs are activated by different receptors and have, therfore, distinct in vivo roles. Jak3 is maninly expressed B and T lymphocytes and is required for lymphocyte function and deveopment. Jak3 is phosphorylated in multiple sites including Tyr980 and Tyr 981. Development of drugs that block JAK3 activation have shown promising results for the treatment of psoriasis (5,6)

References:

1. O'Shea JJ and Murry PJ, 2008, Immunity, 28:477-487.
2. Villarino AV, et al., 2015, J Immunol 194:21-27.
3. O-Shea JJ, et al., 2015, Annu Rev Med, 66:311-328.
4. Chang BY, et al., 2009, J Immunol 183:2183-2192.
5. Palanivel J, et al., 2014, Clin Exp Dermatol, 39:513-518.
6. van de Kerkhof PCM, 2015, Dermatol Clin, 33:73-77.

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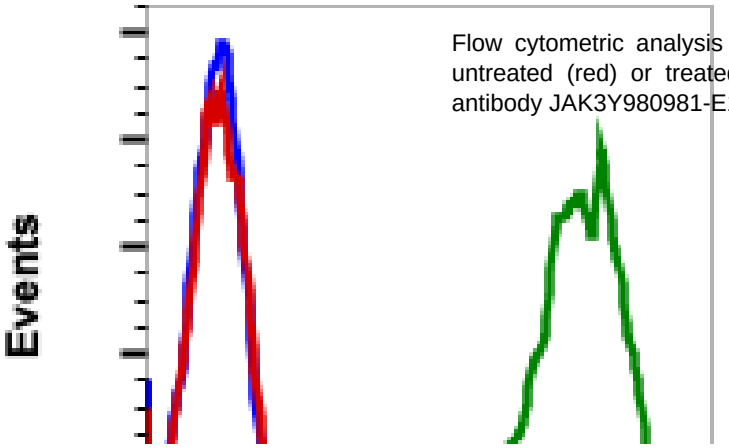
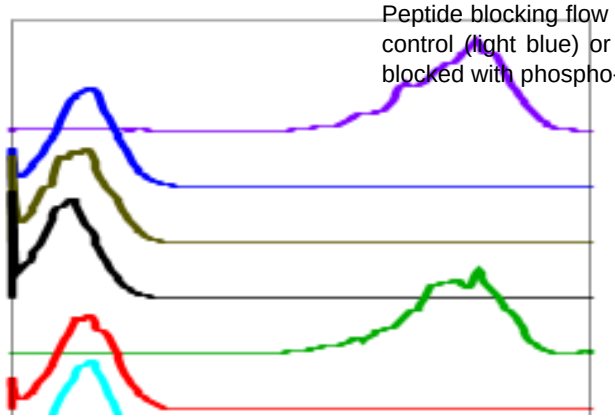
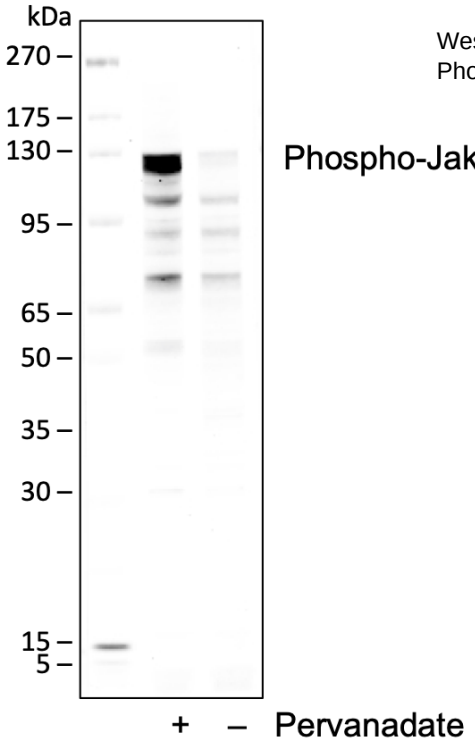


Flow cytometric analysis of Ramos secondary antibody only negative control (blue) or untreated (red) or treated with pervanadate (green) using phospho-Jak3 (Tyr980/981) antibody JAK3Y980981-E10, 0.01 µg/mL. Cat. #2471.



Peptide blocking flow cytometric analysis of Ramos cells secondary antibody only negative control (light blue) or untreated (red) or treated with pervanate (green) or untreated and blocked with phospho-peptide (black) or treated and blocked with phospho p



Western blot analysis of COS7 cell extract, untreated or treated with pervanadate using Phospho-Jak3 (Tyr980/981) antibody JAK3Y980981-E10 at 0.1 ug/mL. Cat. #2471.

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