Phospho-Shp2 (Tyr580) (4A2) rabbit mAb

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Catalog: #2101 **Store at:** -20ºC

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

Applications	Detection	Clonality	Isotype
Flow Cytometry	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,Mouse

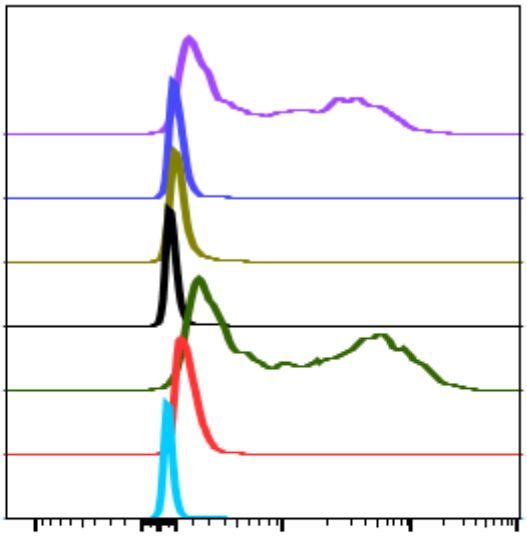
Recommended Usage: 1µg/mL – 0.001µg/mL. It is recommended that the reagent be titrated for optimal performance for each application. See product image legends for additional information.

Immunogen: A synthetic phospho-peptide corresponding to residues surrounding Tyr580 of human phospho Shp2

Description: Src homology region 2 (SH2)-containing protein tyrosine phosphatase 2 (Shp2, phospho Shp2), encoded by PTPN11 gene, is a non-receptor phosphotyrosine phosphatase which is ubiquitously expressed in mammalian cells and contain one protein tyrosine phosphatase (PTP) catalytic domain and two SH2 domains. The phosphatase active site is located in the C-terminal of Shp2. Shp2 is phosphorylated by several stimulants and cytokines at Tyr580 inducing Shp2 activation. Activated Shp2 recruits Grb2 and Tyr580 phosphorylation of phospho Shp2 functions as the main binding site of Grb2, thereby activating downstream Ras in response to growth factors. In turn Grb2 controls FGFR2 phosphorylation by inhibiting receptor kinase and Shp2 phosphatase activity. Shp2 also promotes both ERK1/2 and PI3K/AKT signaling. High levels of Shp2 has been found in several cancer types including breast cancer and melanoma.

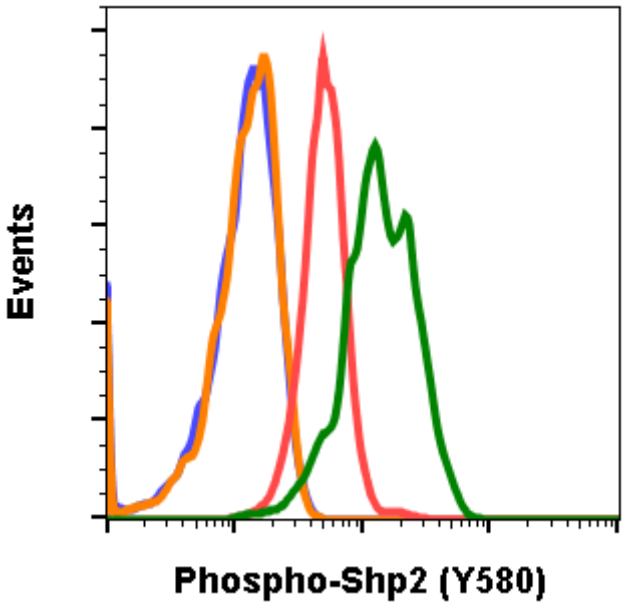
References:

1. Bennett AM et al., (1994) Proc Natl Acad Sci USA. 91:7335–9.
2. Feng GS et al., (1994) Trends Genet. 10:54–8.
3. Mohi MG et al., (2007) Curr Opin Genet Dev. 17:23–30.
4. Vogel W et al., (1996) Cell Growth Differ. 7:1589–97
5. Ahmed Z et al., (2013) J Cell Biol. 200:493–504.
6. Hu ZQ et al., (2014) Oncol Rep 32:205-212.

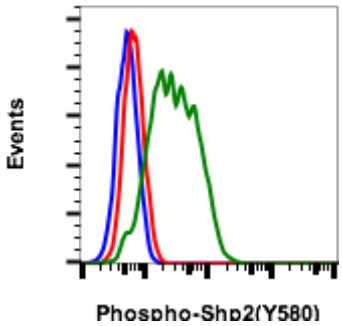


	SampleID	Median : BL1-A
	IFN 4A2 N	5690
	Ctrl 4A2 N	964
	IFN 4A2 P	1064
	Ctrl 4A2 P	682
	IFN 4A2	9046
	Ctrl 4A2	1545
	Ctrl 2' only	522

Peptide blocking flow cytometric analysis of THP1 cells secondary antibody only negative control (light blue) or untreated (red) or treated with IFNα + IL-4 + pervanadate (green) or untreated and blocked with phospho-peptide (black) or treated and blocked with phospho peptide (gold) or untreated and blocked with non-phospho peptide (dark blue) or treated and blocked with non-phospho peptide (purple) using Phospho-Shp2 (Tyr580) antibody Shp2Y580-4A2 at 0.1µg/mL. Cat. #2101.



Flow cytometric analysis of NIH3T3 cells secondary antibody only negative control (blue) or 0.1 µg/mL of isotype control Cat. #2141 (orange) or untreated (red) or treated with IFNα IL-4 and pervanadate (green) using Phospho-Shp2 (Tyr580) antibody Shp2Y580-4A2 at 0.1 µg/mL. Cat #2101.



Flow cytometric analysis of U937 cells secondary antibody only negative control (blue) or untreated (red) or treated with IFNα IL4 and pervanadate (green) using Phospho-Shp2 (Tyr580) antibody at 0.05 ug/mL Shp2Y580-4A2. Cat. #2101.