Phospho-STAT3 (Tyr705) Monoclonal Antibody (LUVNKLA), PE, eBioscience™

Product Details	
Size	100 Tests
Species Reactivity	Human, Mouse
Published Species	Mouse, Human
Host/Isotype	Mouse / IgG2b, kappa
Recommended Isotype Control	Mouse IgG2b kappa Isotype Control (eBMG2b), PE, eBioscience™
Class	Monoclonal
Type	Antibody
Clone	LUVNKLA
Conjugate	PE
Excitation/Emission Max	565/576 nm
Form	Liquid
Concentration	5 µL/Test
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2, with 0.2% BSA
Contains	0.09% sodium azide
Storage conditions	4° C, store in dark, DO NOT FREEZE!
RRID	AB_2572679

Applications	Tested Dilution	Publications
Flow Cytometry (Flow)	5 µL (0.06 µg)/test	9 Publications

Product Specific Information

Description: This LUVNKLA monoclonal antibody recognizes human and mouse signal transducer and activator of transcription 3 (STAT3) when phosphorylated on tyrosine 705 (Y705). The STAT family represents seven transcription factors (STATs 1, 2, 3, 4, 5A, 5B, and 6) that are involved in many cellular processes including apoptosis, cell differentiation, and proliferation in a cell type- and cytokine-specific manner. STAT proteins are activated by ligand binding to cytokine receptors that associate with Janus kinase (JAK) family members.

Following their phosphorylation by JAKs, STAT proteins translocate to the nucleus where they bind to DNA and regulate transcription of specific genes in a cell type- and cytokine-specific manner. STAT3 is activated downstream of numerous cytokines including interferons, IL-5, IL-6, IL-10, and LIF. STAT3 is important for the differentiation of Th17 cells and mediates a variety of cellular processes including cell growth and survival. The importance of STAT3 is highlighted by both loss-of-function and gain-of-function mutations. Deletion of STAT3 in T cells results in decreased IL-6- and IL-2-mediated proliferation, while deletion of STAT3 in neutrophils and macrophages results in increased susceptibility to LPS-induced endotoxic shock and increased production of the pro-inflammatory cytokines IL-6 and TNF alpha. Hyper STAT3 activity is associated with poor prognosis of many different cancers.

Applications Reported: This LUVNKLA antibody has been reported for use in intracellular staining followed by flow cytometric analysis.

Applications Tested: This LUVNKLA antibody has been pre-titrated and tested by intracellular staining followed by flow

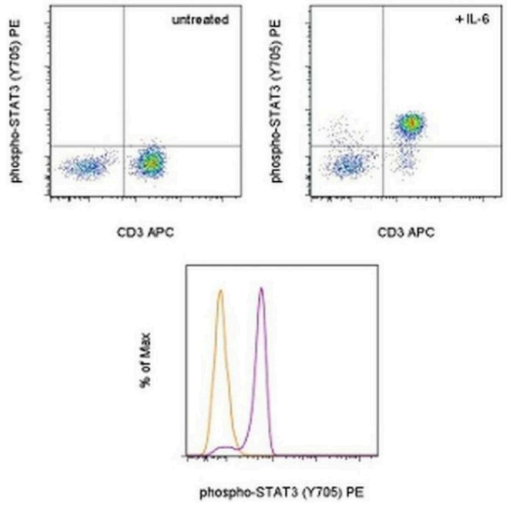
cytometric analysis of normal human peripheral blood cells. This can be used at 5 µL (0.06 µg) per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test.

Staining Protocol: We recommend using Protocol C: Two-step protocol: Fixation/Methanol. Protocol A: Two-step protocol: intracellular (cytoplasmic) proteins and Protocol B: One-step protocol: intracellular (nuclear) proteins cannot be used. All Protocols can be found in the Flow Cytometry Protocols: "Staining Intracellular Antigens for Flow Cytometry Protocol" located in the Best Protocols Section under the Resources tab online.

Excitation: 488-561 nm; Emission: 578 nm; Laser: Blue Laser, Green Laser, Yellow-Green Laser.

Filtration: 0.2 µm post-manufacturing filtered.

Product Images For Phospho-STAT3 (Tyr705) Monoclonal Antibody (LUVNKLA), PE, eBioscience™



Phospho-STAT3 (Tyr705) Antibody (12-9033-42) in Flow
TOP: Intracellular staining of untreated (left) or 15-minute Human IL-6 Recombinant Protein (Product # 14-8069-80)-treated (right) normal human whole blood with Anti-Human CD3 APC (Product # 17-0036-42) and Anti-Human /Mouse phospho-STAT3 (Y705) PE. BOTTOM: Intracellular staining of untreated (orange histogram) or 15-minute Human IL-6 Recombinant Protein (Product # 14-8069-80)-treated (purple histogram) normal human whole blood with Anti-Human /Mouse phospho-STAT3 (Y705) PE. CD3+ cells in the lymphocyte gate were used for analysis. In both panels, red blood cells were lysed using the 1-step Fix /Lyse Solution (Product # 00-5333-54) and protocol, follwed by fixation with methanol. Cells in the lymphocyte gate were used for analyses.

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9 References

Flow Cytometry (9)

Journal for immunotherapy of cancer

Year
2021

Species
Human
Mouse

Aged neutrophils form mitochondria-dependent vital NETs to promote breast cancer lung metastasis.

"12-9033-42 was used in Flow Cytometry to investigate the existence and biological function of a rarely delved subset of neutrophils, named as tumor-associated aged neutrophils (Naged, CXCR4+CD62Llow), involved in premetastatic niche formation during breast cancer metastasis."

Authors: Yang C,Wang Z,Li L,Zhang Z,Jin X,Wu P,Sun S,Pan J,Su K,Jia F,Zhang L,Wang H,Yu X,Shao X,Wang K,Qiu F,Yan J,Huang J

Journal for immunotherapy of cancer

Year
2021

Combinatorial immunotherapy of N-803 (IL-15 superagonist) and dinutuximab with ex vivo expanded natural killer cells significantly enhances in vitro cytotoxicity against GD2^{+} pediatric solid tumors and in vivo survival of xenografted immunodeficient NSG mice.

"Published figure using Phospho-STAT3 (Tyr705) monoclonal antibody (Product # 12-9033-42) in Flow Cytometry"

Authors: Chu Y,Nayyar G,Jiang S,Rosenblum JM,Soon-Shiong P,Safrit JT,Lee DA,Cairo MS

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