

Technical Data Sheet

Oligo Mouse Anti-Stat6 (pY641)

Product Information

Material Number:	940516
Size:	25 Tests
Clone:	18/P-Stat6
Alternative Name:	Signal transducer and activator of transcription 6; IL-4 Stat
Reactivity:	Tested in Development:Human
Isotype:	Mouse IgG2a
Application:	Single Cell 3' Sequencing Intracellular CITE-seq(Tested During Development)
Barcode Sequence:	AAGCGTTGATTGATTAGCGGTAGTTGAAAGGATTGC
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

Interleukin-4 (IL-4), a major immunoregulatory cytokine, is secreted by activated T lymphocytes, basophils, and mast cells and plays an important role in modulating T helper cell lineage development. It induces specific gene expression via the tyrosine phosphorylation of Stat6 at tyrosine 641 (Y641). Stat6, a member of the signal transducers and activators of transcription protein family, mediates signals for IL-4 and, possibly, IL-13. While Stat6 is widely expressed in human tissues, it exhibits elevated expression in peripheral blood lymphocytes, colon, intestine, ovary, prostate, thymus, spleen, kidney, liver, lung, and placenta. Following cytokine receptor ligation, Jak kinases are activated and phosphorylate the cytoplasmic tails of the oligomerized receptors. The SH3:SH2 domain of Stat6 associates with tyrosine-phosphorylated IL-4 receptor and the proximal Jak kinase phosphorylates Stat6 at Y641 on the C-terminal side of the SH2 domain. Stat6 is then released from the receptor, dimerizes, and is thought to contact the basal transcription machinery by binding to p300/CBP. Thus, Stat6 mediates the IL-4 signal and is essential for the proper development of adaptive immunity.

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze. The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography and conjugated to BD® AbSeq oligonucleotide under optimal conditions.

Recommended Assay Procedure

Put all BD® AbSeq reagents to be pooled into a Latch Rack for 500 µL Tubes (Thermo Fisher Scientific Cat. No. 4900). Arrange the tubes so that they can be easily uncapped and re-capped with an 8-Channel Screw Cap Tube Capper (Thermo Fisher Scientific Cat. No. 4105MAT) and the reagents aliquoted with a multi-channel pipette. BD® AbSeq tubes should be centrifuged for = 30 seconds at 400 × g to ensure removal of any content in the cap/tube threads prior to the first opening.

When using BD® AbSeq intracellular markers with the Single Cell 3' Sequencing Intracellular CITE-seq, cells must first be fixed and permeabilized using the BD Rhapsody™ Intracellular AbSeq Buffer Kit before the antibody-oligo can bind to the protein. Refer to the list of required companion products below and see BD Rhapsody™ System Single-Cell Labelling with BD® AbSeq Ab-Oligos for Intracellular CITE-seq (Doc ID: 23-24464) for the complete BD® AbSeq intracellular multiomics staining protocol. Contact your local Field Application Specialist (FAS) for additional guidance.

Use standard laboratory safety protocols. Read and understand the safety data sheets (SDSs) before handling chemicals. To obtain SDSs, go to regdocs.bd.com or contact BD Biosciences technical support at scomix@bdscomix.bd.com.

Warning: All biological specimens and materials contacting them are considered biohazardous. Handle as if capable of transmitting infection and dispose of with proper precautions in accordance with federal, state, and local regulations. Never pipette by mouth. Wear suitable protective clothing, eyewear, and gloves.

Suggested Companion Products

Catalog Number	Name	Size
570742	Intracellular AbSeq Buffer Kit	1 Each
570750	AbSeq Enhancer Kit	1 Each

570908	OMICS-Guard Sample Preservation Buffer Kit	12 Each
570751	RNase Inhibitor	1 Each
633801	Whole Transcriptome Analysis (WTA) Amplification Kit	1 Each
554656	Stain Buffer (FBS)	500 mL
564219	Human BD Fc Block™	50 µg
664887	Enhanced Cartridge Reagent Kit	1 Each
633733	Cartridge Kit	1 Each
666262	8-Lane Cartridge	1 Each
625970	Immune Discovery Panel	5 Tests
633773	cDNA Kit	1 Each
633781	Hu Single Cell Sample Multiplexing Kit	1 Each
570911	OMICS-Guard Sample Preservation Buffer	50 mL
633707	Express Single-Cell Analysis System Package	1 EA
633701	Single-Cell Analysis System	1 EA

Product Notices

1. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
2. This reagent has been pre-diluted for use at the recommended volume per test. Typical use is 2 µl for 1 × 10⁶ cells in a 200-µl staining reaction.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
7. Please refer to bd.com/genomics-resources for technical protocols.
8. Illumina is a trademark of Illumina, Inc.
9. For U.S. patents that may apply, see bd.com/patents.

References

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