

Technical Data Sheet

Oligo Rabbit Anti-Active Caspase-3

Product Information

Material Number:	940513
Size:	25 Tests
Clone:	C92-605.rMAb
Alternative Name:	Apopain; CASP-3; CASP3; CC3; CPP-32; CPP32; Caspase 3; Yama
Reactivity:	Tested in Development: Human, Mouse
Isotype:	Rabbit IgG, κ
Application:	Single Cell 3' Sequencing Intracellular CITE-seq (Tested During Development)
Barcode Sequence:	AGAAGGGCTATTGACGACGTGATGTGAGTGTTATGT
Storage Buffer:	Aqueous buffered solution containing BSA and $\leq 0.09\%$ sodium azide.
Regulatory Status:	RUO

Description

The C92-605.rMAb is a recombinant monoclonal antibody derived from C92-605 hybridoma cells. This antibody specifically recognizes the active form of Caspase-3 in human and mouse cells. It has not been reported to recognize the pro-enzyme form of Caspase-3. The Caspase family of cysteine proteases play crucial roles in apoptosis and inflammation. Caspase-3 is a key protease that is activated during the early stages of apoptosis and, like other members of the Caspase family, is synthesized as an inactive pro-enzyme that is processed in cells undergoing apoptosis by self-proteolysis and/or cleavage by another protease. The processed forms of caspases consist of large (17-22 kDa) and small (10-12 kDa) subunits which associate to form an active enzyme. Active Caspase-3, a marker for cells undergoing apoptosis, consists of a heterodimer of 17 and 12 kDa subunits which is derived from the 32 kDa pro-enzyme. Active Caspase-3 proteolytically cleaves and activates other caspases, as well as relevant targets in the cytoplasm, eg, D4-GDI and Bcl-2, and in the nucleus (eg, PARP).

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 μ L 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 \times 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
666262	8-Lane Cartridge	1 Each
564219	Human BD Fc Block™	50 µg
664887	Enhanced Cartridge Reagent Kit	1 Each
633733	Cartridge Kit	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. Species cross-reactivity detected in product development may not have been confirmed on every format and/or application.
7. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
8. Please refer to bd.com/genomics-resources for technical protocols.
9. Illumina is a trademark of Illumina, Inc.
10. For U.S. patents that may apply, see bd.com/patents.

References

Ohsawa S, Hamada S, Yoshida H, Miura M. Caspase-mediated changes in histone H1 in early apoptosis: prolonged caspase activation in developing olfactory sensory neurons. *Cell Death Differ.* 2008; 15(9):1429-1439. (Clone-specific: Fluorescence microscopy, Immunofluorescence, Western blot).

Dukers DF, Oudejans JJ, Vos W, ten Berge RL, Meijer CJ. Apoptosis in B-cell lymphomas and reactive lymphoid tissues always involves activation of caspase 3 as determined by a new in situ detection method. *J Pathol.* 2002; 196(3):307-315. (Clone-specific: Immunohistochemistry, Immunoprecipitation).

Pettersen RD, Bernard G, Olafsen MK, Pourtein M, Lie SO. CD99 signals caspase-independent T cell death. *J Immunol.* 2001; 166(8):4931-4942. (Clone-specific: Intracellular Staining/Flow Cytometry).

Zhu S, Zhang X, Weichert-Leahey N, et al. LMO1 Synergizes with MYCN to Promote Neuroblastoma Initiation and Metastasis. *Cancer Cell.* 2017; 32(3):310-323.e5. (Clone-specific: Immunohistochemistry).

Winzler C, Fantinato M, Giordan M, Calore E, Basso G, Messina C. CD4(+) T regulatory cells are more resistant to DNA damage compared to CD4(+) T effector cells as revealed by flow cytometric analysis. *Cytometry A.* 2011; 79(11):903-11. (Clone-specific: Intracellular Staining/Flow Cytometry).

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