

CD3- δ (F-1): sc-137137

The Power to Question

BACKGROUND

The T cell antigen receptor (TCR) recognizes foreign antigens and translates such recognition events into intracellular signals that elicit a change in the cell from a dormant to an activated state. Much of this signaling process can be attributed to a multisubunit complex of proteins that associates directly with the TCR. This complex has been designated CD3 (cluster of differentiation 3). It is composed of five invariant polypeptide chains that associate to form three dimers: a heterodimer of γ and ϵ chains ($\gamma\epsilon$), a heterodimer of δ and ϵ chains ($\delta\epsilon$) and a homodimer of two ζ chains ($\zeta\zeta$) or a heterodimer of ζ and η chains ($\zeta\eta$). The ζ and η chains are encoded by the same gene but differ in their carboxyl-terminal ends due to an alternative splicing event. The γ , ϵ and δ chains each contain a single copy of a conserved immunoreceptor tyrosine-based activation motif (ITAM). In contrast, the ζ chain contains three consecutive copies of the same motif. Phosphorylated ITAMs act as docking sites for protein kinases such as ZAP-70 and Syk and are also capable of regulating their kinase activity. The crystal structure of the ZAP-70 SH2 domains bound to the ζ chain ITAMs has been solved.

CHROMOSOMAL LOCATION

Genetic locus: CD3D (human) mapping to 11q23.3.

SOURCE

CD3- δ (F-1) is a mouse monoclonal antibody raised against amino acids 1-171 representing full length CD3- δ of human origin.

PRODUCT

Each vial contains 200 μg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD3- δ (F-1) is available conjugated to agarose (sc-137137 AC), 500 $\mu\text{g}/0.25$ ml agarose in 1 ml, for IP; to HRP (sc-137137 HRP), 200 $\mu\text{g}/\text{ml}$, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137137 PE), fluorescein (sc-137137 FITC), Alexa Fluor[®] 488 (sc-137137 AF488), Alexa Fluor[®] 546 (sc-137137 AF546), Alexa Fluor[®] 594 (sc-137137 AF594) or Alexa Fluor[®] 647 (sc-137137 AF647), 200 $\mu\text{g}/\text{ml}$, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-137137 AF680) or Alexa Fluor[®] 790 (sc-137137 AF790), 200 $\mu\text{g}/\text{ml}$, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD3- δ (F-1) is recommended for detection of CD3- δ of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD3- δ siRNA (h): sc-42749, CD3- δ shRNA Plasmid (h): sc-42749-SH and CD3- δ shRNA (h) Lentiviral Particles: sc-42749-V.

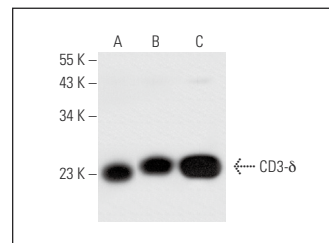
Molecular Weight of CD3- δ : 20 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HuT 78 whole cell lysate: sc-2208 or CCRF-CEM cell lysate: sc-2225.

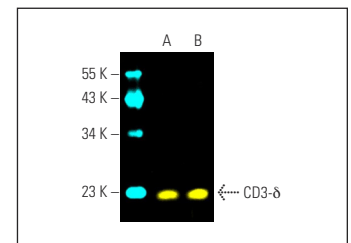
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



CD3- δ (F-1): sc-137137. Western blot analysis of CD3- δ expression in Jurkat (A), HuT 78 (B) and CCRF-CEM (C) whole cell lysates.



CD3- δ (F-1) Alexa Fluor[®] 488: sc-137137 AF488. Direct fluorescent western blot analysis of CD3- δ expression in Jurkat (A) and CCRF-CEM (B) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Cruz Marker[™] Molecular Weight Standards detected with Cruz Marker[™] MW Tag-Alexa Fluor[®] 647: sc-516791.

SELECT PRODUCT CITATIONS

- Arumughan, A., et al. 2016. Quantitative interaction mapping reveals an extended UBX domain in ASPL that disrupts functional p97 hexamers. *Nat. Commun.* 7: 13047.
- Baeuerle, P.A., et al. 2019. Synthetic TRuC receptors engaging the complete T cell receptor for potent anti-tumor response. *Nat. Commun.* 10: 2087.
- Chen, Y., et al. 2022. Cholesterol inhibits TCR signaling by directly restricting TCR-CD3 core tunnel motility. *Mol. Cell* 82: 1278-1287.e5.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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