CD3 (PC3/188A): sc-20047

**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 gamma and epsilon chains (γε), a heterodimer of δ and ε chains (δε) and a homodimer of two zeta chains (ζζ) or a heterodimer of ζ and η chains (ζη). The γ and ε chains are encoded by the same gene but differ in their carboxyl-terminal ends due to an alternative splicing event. The γε, δε and εζ 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.

**SOURCE**

CD3 (PC3/188A) is a mouse monoclonal antibody raised against synthetic peptide spanning amino acids 156-168 of the cytoplasmic domain of human CD3-ε chain.

**PRODUCT**

Each vial contains 200 μg IgG1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Available as phycoerythrin (sc-20047 PE) or fluorescein (sc-20047 FITC) conjugates for flow cytometry, 100 tests. Available as Alexa Fluor® 405 (sc-20047 AF405), Alexa Fluor® 488 (sc-20047 AF488) or Alexa Fluor® 647 (sc-20047 AF647) conjugates for flow cytometry or immunofluorescence; 100 μg/2 ml.

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**APPLICATIONS**

CD3 (PC3/188A) is recommended for detection of CD3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:50-1:500), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μg per 1 x 10⁶ cells).

Suitable for use as control antibody for CD3 siRNA (h): sc-29987, CD3 siRNA (m): sc-29988, CD3 shRNA Plasmid (h): sc-29987-SH, CD3 shRNA Plasmid (m): sc-29988-SH, CD3 shRNA (h) Lentiviral Particles: sc-29987-V and CD3 shRNA (m) Lentiviral Particles: sc-29988-V.

Molecular Weight of CD3: 25 kDa.

Positive Controls: CTLL-2 cell lysate; sc-2242, CD3-ε (h): 293T Lysate: sc-116055 or TK-1 whole cell lysate.

**STORAGE**

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

**DATA**

![CD3 (PC3/188A): sc-20047. Western blot analysis of CD3 expression in non-transfected: sc-117752 (A) and human CD3-ε transfected: sc-116055 (B) 293T whole cell lysates.](image1)

![CD3 (PC3/188A): sc-20047. Western blot analysis of CD3 expression in CTLL-2 (A) and TK-1 (B) whole cell lysates.](image2)

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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