

Perforin 1 (C-20): sc-7417

BACKGROUND

The body's major defense against virus-infected and tumorigenic cells is cytotoxic T lymphocyte (CTL)-mediated cytotoxicity, which also plays a role in autoimmune diseases and transplant rejection. During CTL-mediated cytotoxicity, CTL granules containing perforin are exocytosed. Perforin is a pore-forming protein that facilitates the entry of cytotoxic serine proteases, such as granzymes, into target cells by forming transmembrane channels in target cell membranes. Perforin is primarily expressed in cytotoxic T lymphocytes (CTL) and natural killer (NK) cells, but has more recently been observed in an astrocyte population of the human brain. It has been shown that abrogation of perforin function by Ca²⁺-complexing agents leads to decreased levels of necrosis, demonstrating that both necrosis and apoptosis contribute to CTL-mediated cytotoxicity. Perforin activity has been shown to be induced by IL-2, IL-3, IL-4, IL-6 and to a lesser degree, TNF and IFN- γ .

CHROMOSOMAL LOCATION

Genetic locus: PRF1 (human) mapping to 10q22; Prf1 (mouse) mapping to 10 B4.

SOURCE

Perforin 1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Perforin 1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7417 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Perforin 1 (C-20) is recommended for detection of Perforin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Perforin 1 siRNA (h): sc-42592, Perforin 1 siRNA (m): sc-42593, Perforin 1 siRNA (r): sc-270073, Perforin 1 shRNA Plasmid (h): sc-42592-SH, Perforin 1 shRNA Plasmid (m): sc-42593-SH, Perforin 1 shRNA Plasmid (r): sc-270073-SH, Perforin 1 shRNA (h) Lentiviral Particles: sc-42592-V, Perforin 1 shRNA (m) Lentiviral Particles: sc-42593-V and Perforin 1 shRNA (r) Lentiviral Particles: sc-270073-V.

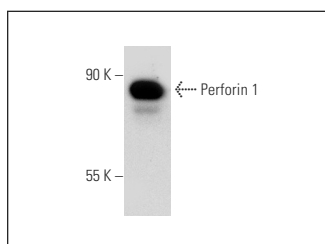
Molecular Weight of Perforin 1: 75 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, CTLL-2 cell lysate: sc-2242 or rat brain extract: sc-2392.

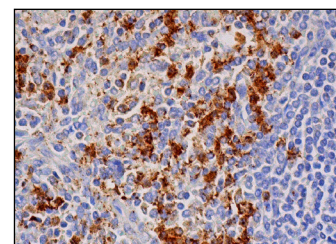
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Perforin 1 (C-20): sc-7417. Western blot analysis of Perforin 1 expression in CTLL-2 whole cell lysate.



Perforin 1 (C-20): sc-7417. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of subset of cells in red pulp.

SELECT PRODUCT CITATIONS

1. McGavern, D., et al. 2002. Molecular anatomy of antigen-specific CD8⁺ T cell engagement and synapse formation *in vivo*. *Nat. Immunol.* 10: 918-925.
2. Lindeman, J.H., et al. 2009. Clinical trial of doxycycline for matrix metalloproteinase-9 inhibition in patients with an abdominal aneurysm: doxycycline selectively depletes aortic wall neutrophils and cytotoxic T cells. *Circulation* 119: 2209-2216.

RESEARCH USE

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

PROTOCOLS

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



Try **Perforin 1 (F-1): sc-136994** or **Perforin 1 (E-5): sc-374346**, our highly recommended monoclonal alternatives to Perforin 1 (C-20).