SANTA CRUZ BIOTECHNOLOGY, INC.

CD8-α (D-9): sc-7970

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The T cell receptor (TCR) is a heterodimer composed of either α and β or γ and δ chains. CD3 chains and the CD4 or CD8 (CD8-α and CD8-β) co-receptors are also required for efficient signal transduction through the TCR. The TCR is expressed on T helper and T cytotoxic cells that can be distinguished by their expression of CD4 and CD8 proteins; T helper cells express CD4 proteins and T cytotoxic cells display CD8 proteins. CD8s are cell surface glycoproteins that exist as two chain complex (αα or αβ) receptors that bind class I MHC molecules presented by the antigen-presenting cell (APC). A primary function of CD8 proteins is to facilitate antigen recognition by the TCR and to strengthen the avidity of the TCR-antigen interactions. An additional role for CD8-expressing T cells may be to maintain low levels of HIV expression.

CHROMOSOMAL LOCATION

Genetic locus: CD8A (human) mapping to 2p11.2; Cd8a (mouse) mapping to 6 C1.

SOURCE

CD8-α (D-9) is a mouse monoclonal antibody raised against amino acids 22-182 representing the extracellular domain of CD8-α chain 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.

CD8-α (D-9) is available conjugated to agarose (sc-7970 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7970 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7970 PE), fluorescein (sc-7970 FITC), Alexa Fluor® 488 (sc-7970 AF488), Alexa Fluor® 546 (sc-7970 AF546), Alexa Fluor® 594 (sc-7970 AF594) or Alexa Fluor® 647 (sc-7970 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7970 AF680) or Alexa Fluor® 790 (sc-7970 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD8-α (D-9) is recommended for detection of CD8-α chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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 CD8-α siRNA (h): sc-29247, CD8-α siRNA (m): sc-43677, CD8-α shRNA Plasmid (h): sc-29247-SH, CD8-α shRNA Plasmid (m): sc-43677-SH, CD8-α shRNA (h) Lentiviral Particles: sc-29247-V and CD8-α shRNA (m) Lentiviral Particles: sc-43677-V.

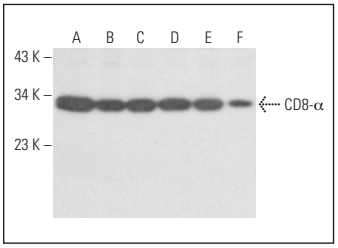
Molecular Weight of CD8-α: 39 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

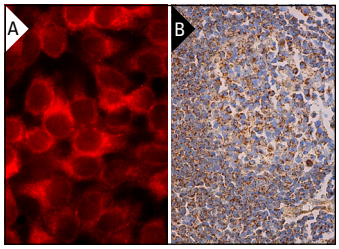
STORAGE

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

DATA



CD8-α (D-9): sc-7970. Western blot analysis of CD8-α expression in K-562 (**A**), Jurkat (**B**), Raji (**C**), HL-60 (**D**), SUP-T1 (**E**) and HeLa (**F**) whole cell lysates.



CD8-α (D-9): sc-7970. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal center and cells in non-germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Ishihara, Y., et al. 2001. The role of leukocytes during acute phase inflammation in crystalline silica-induced lung injury. Exp. Lung Res. 27: 589-603.
2. Safeukui, I., et al. 2015. Malaria induces anemia through $CD8^+$ T cell-dependent parasite clearance and erythrocyte removal in the spleen. mBio 6: e02493-14.
3. Di Paola, R., et al. 2016. Ultramicronized palmitoylethanolamide (PEA-um®) in the treatment of idiopathic pulmonary fibrosis. Pharmacol. Res. 111: 405-412.
4. Masuelli, L., et al. 2017. Chloroquine supplementation increases the cytotoxic effect of curcumin against Her2/neu overexpressing breast cancer cells *in vitro* and *in vivo* in nude mice while counteracts it in immune competent mice. Oncoimmunology 6: e1356151.
5. Wan, S., et al. 2018. $CD8\alpha^+CD11c^+$ extracellular vesicles in the lungs control immune homeostasis of the respiratory tract via TGF-β1 and IL-10. J. Immunol. 200: 1651-1660.
6. Di Paola, R., et al. 2019. Formyl peptide receptor 1 signalling promotes experimental colitis in mice. Pharmacol. Res. 141: 591-601.
7. Wang, L., et al. 2020. Inhibition of the ATM/Chk2 axis promotes cGAS/STING signaling in ARID1A-deficient tumors. J. Clin. Invest. 130: 5951-5966.
8. Zeng, Y., et al. 2022. Optimization of cancer immunotherapy through pyroptosis: a pyroptosis-related signature predicts survival benefit and potential synergy for immunotherapy in glioma. Front. Immunol. 13: 961933.
9. Zhang, Z., et al. 2023. Lymphocyte-related immunomodulatory therapy with siponimod (BAF-312) improves outcomes in mice with acute intracerebral hemorrhage. Aging Dis. 14: 966-991.

RESEARCH USE

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