SANTA CRUZ BIOTECHNOLOGY, INC.

CD73 (IE9): sc-32299

BACKGROUND

CD73 (also designated ecto-5'-nucleotidase, E5NT, NT, NT5, NTE, eN and eNT) is a glycosyl-phosphatidylinositol (GPI)-anchored adhesion protein that catalyzes the dephosphorylation of extracellular purine and pyrimidine nucleotides to their corresponding bioactive nucleosides. CD73 is a dimer of two identical subunits that depends on GPI to link with the external face of the plasma membrane. Similar to other GPI-anchored proteins, CD73 mediates co-stimulatory signals in T cell activation. CD73 has few structural variants, yet elicits diverse biological function through differential regulation in endothelial cells (EC), subpopulations of B and T cells, germinal center follicular dendritic cells and on thymic medullary reticular fibroblasts. For example, IgG-mediated neutralization of CD73 interferes with lymphocyte adhesion to EC, and blocks aggregation of germinal center B cells and follicular dendritic cells. Furthermore, IgG-mediated targeting of lymphocyte CD73, but not of endothelial cell CD73, causes shedding of CD73 and tyrosine phosphorylation of proteins.

CHROMOSOMAL LOCATION

Genetic locus: NT5E (human) mapping to 6q14.3.

SOURCE

CD73 (IE9) is a mouse monoclonal antibody raised against CD73 purified from placenta of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CD73 (IE9) is recommended for detection of CD73 of 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with mouse.

Suitable for use as control antibody for CD73 siRNA (h): sc-42862, CD73 shRNA Plasmid (h): sc-42862-SH and CD73 shRNA (h) Lentiviral Particles: sc-42862-V.

Molecular Weight of CD73: 71 kDa.

Positive Controls: JEG-3 Whole Cell Lysate: sc-364255, K-562 whole cell lysate: sc-2203 or chemically-treated HEK293T 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.

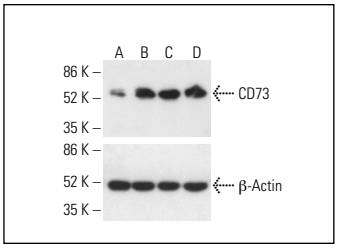
PROTOCOLS

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

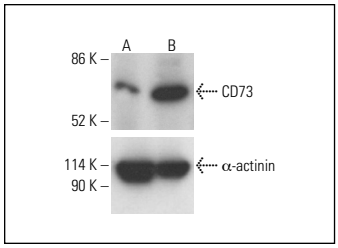
RESEARCH USE

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

DATA



CD73 (IE9): sc-32299. Western blot analysis of CD73 expression in untreated (**A**) and chemically-treated (**B**, **C**, **D**) HEK293T whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



CD73 (IE9): sc-32299. Western blot analysis of CD73 expression in untreated (**A**) and chemically-treated (**B**) Hep G2 whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102. α-actinin (H-2): sc-17829 used as loading control. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Tezcan, B., et al. 2010. Dose dependent effect of C-type natriuretic peptide signaling in glycosaminoglycan synthesis during TGF-β1 induced chondrogenic differentiation of mesenchymal stem cells. J. Mol. Histol. 41: 247-258.
2. Maj, T., et al. 2017. Oxidative stress controls regulatory T cell apoptosis and suppressor activity and PD-L1-blockade resistance in tumor. Nat. Immunol. 18: 1332-1341.
3. Park, J.S., et al. 2018. Verification of long-term genetic stability of hMSCs during subculture after internalization of sunflower-type nanoparticles (SF-NPs). Theranostics 8: 5548-5561.
4. Narumi, K., et al. 2019. Mutual role of ecto-5'-nucleotidase/CD73 and concentrative nucleoside transporter 3 in the intestinal uptake of dAMP. PLoS ONE 14: e0223892.
5. Hettich, B.F., et al. 2020. Exosomes for wound healing: purification optimization and identification of bioactive components. Adv. Sci. 7: 2002596.
6. Yu, X., et al. 2021. CD73 induces gemcitabine resistance in pancreatic ductal adenocarcinoma: a promising target with non-canonical mechanisms. Cancer Lett. 519: 289-303.
7. Aouimeur, I., et al. 2023. Investigating the role of TGF-β signaling pathways in human corneal endothelial cell primary culture. Cells 12: 1624.
8. Rocha-Vieira, T.C., et al. 2024. Comparative characterisation of an ecto-5'-nucleotidase (CD73) in non-tumoral MCF10-A breast cells and triple-negative MDA-MB-231 breast cancer cells. Cell Biol. Int. 48: 1354-1363.