SANTA CRUZ BIOTECHNOLOGY, INC.

CLIP (cerCLIP.1): sc-12725

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Classical major histocompatibility (MHC) class II complexes are formed in the endoplasmic recticulum and consist of three invariant chains that associate with three class II-ab dimers. The invariant chains contain translocation signals that shuttle the complex into the cytoplasm and then to the endocytic pathway. Within the endoyctic vesicles the invariant chains are degraded, and the resulting MHC class II molecules then contains the ab dimers and a residual fragment of the invariant chain, designated CLIP (class II-associated invariant chain peptide), that remains in the peptide-binding grove. The non-classical human leukocyte antigen HLA-DM catalyzes the removal of CLIP peptides from the peptide-binding groove of MCH class II molecules, chaperones them until peptides are available for loading, and functions as a peptide editor. During this antigen presentation, bound CLIP is exchanged for the processed peptide, thereby allowing the class II ab-peptide complex to be presented to T cells. The monoclonal antibody to CLIP, cerCLIP.1, strongly reacts with surface class II-CLIP complexes and detects HLA class II-positive cells, cells that have impaired HLA-DM activity, and tumor cells that have escaped immuno-surveillance by CD4-positive T cells.

REFERENCES

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2. Riberdy, J.M., Newcomb, J.R., Surman, M.J., Barbosa, J.A., and Cresswell, P. 1992. HLA-DR molecules from an antigen-processing mutant cell line are associated with invariant chain peptides. Nature 360: 474-477.
3. Riberdy, J.M., Avva, R.R., Geuze, H.J., Cresswell, P. 1994. Transport and intracellular distribution of MHC class II molecules and associated invariant chain in normal and antigen-processing mutant cell lines. J. Cell Biol. 125: 1225-1237.
4. Denzin, L.K. 1995. Cresswell, P. 1995. HLA-DM induces CLIP dissociation from MHC class II α β dimers and facilitates peptide loading. Cell 82: 155-165.
5. Roche, P.A. 1996. Out damned CLIP! Out, I say! Science 274: 526-527.
6. Denzin, L.K., Sant'Angelo, D.B., Hammond, C., Surman, M.J., and Cresswell, P. 1997. Negative regulation by HLA-DO of MHC class II-restricted antigen processing. Science. 278: 106-109.
7. Jasanoff, A., Wagner, G., and Wiley, D.C. 1998. Structure of a trimeric domain of the MHC class II-associated chaperonin and targeting protein II. EMBO J. 17: 6812-6818.

CHROMOSOMAL LOCATION

Genetic locus: CD74 (human) mapping to 5q32; Cd74 (mouse) mapping to 18 E1.

SOURCE

CLIP (cerCLIP.1) is a mouse monoclonal antibody epitope corresponding to class II invariant chain peptide (CLIP) amino acids 103-117 of HLA-DR of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-12725 PE), fluorescein (sc-12725 FITC), PerCP (sc-12725 PerCP) or PerCP-Cy5.5 (sc-12725 PCPC5) conjugates for flow cytometry, 100 tests.

APPLICATIONS

CLIP (cerCLIP.1) is recommended for detection of CLIP of mouse 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) and flow cytometry (1 µg per 1 x 10^6 cells).

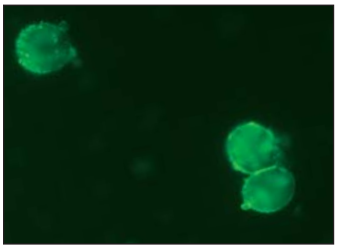
Suitable for use as control antibody for CLIP siRNA (h): sc-42802, CLIP shRNA Plasmid (h): sc-42802-SH and CLIP shRNA (h) Lentiviral Particles: sc-42802-V.

Positive Controls: T2DR3 whole cell lysate.

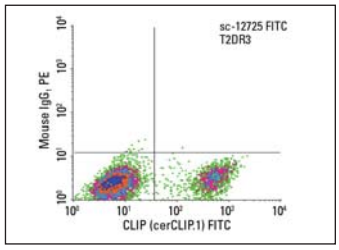
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CLIP (cerCLIP.1): sc-12725. Immunofluorescence staining of methanol-fixed T2DR3 cells showing membrane localization.



CLIP (cerCLIP.1) FITC: sc-12725 FITC. FCM analysis of T2DR3 cells. Quadrant markers were set based on the isotype control, normal mouse IgG_1: sc-2855.

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.