SANTA CRUZ BIOTECHNOLOGY, INC.

CLIP (cerCLIP.1): sc-12725

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-α β 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 α β 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 α β-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.

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 amino acids 103-117 of class II invariant chain peptide (CLIP) of HLA-DR of human origin.

PRODUCT

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

CLIP (cerCLIP.1) is available conjugated to agarose (sc-12725 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-12725 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12725 PE), fluorescein (sc-12725 FITC), Alexa Fluor® 488 (sc-12725 AF488), Alexa Fluor® 546 (sc-12725 AF546), Alexa Fluor® 594 (sc-12725 AF594) or Alexa Fluor® 647 (sc-12725 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12725 AF680) or Alexa Fluor® 790 (sc-12725 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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.

APPLICATIONS

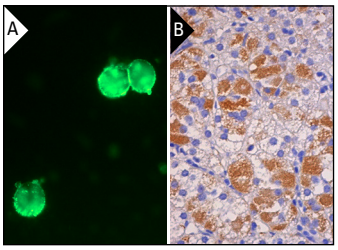
CLIP (cerCLIP.1) is recommended for detection of CLIP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD74 siRNA (h2): sc-42802, CD74 siRNA (m2): sc-42803, CD74 shRNA Plasmid (h2): sc-42802-SH, CD74 shRNA Plasmid (m2): sc-42803-SH, CD74 shRNA (h2) Lentiviral Particles: sc-42802-V and CD74 shRNA (m2) Lentiviral Particles: sc-42803-V.

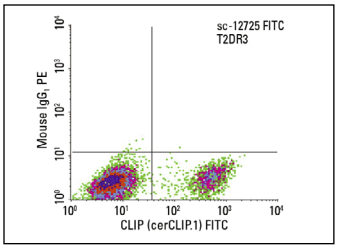
Molecular Weight of CLIP: 34 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207.

DATA



CLIP (cerCLIP.1): sc-12725. Immunofluorescence staining of methanol-fixed T2DR3 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).



CLIP (cerCLIP.1) PE: sc-12725 PE. FCM analysis of T2DR3 cells. Quadrant markers were set based on the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. van Luijn, M.M., et al. 2010. Class II-associated invariant chain peptide down-modulation enhances the immunogenicity of myeloid leukemic blasts resulting in increased $CD4^+$ T-cell responses. Haematologica 95: 485-493.
2. Anczurowski, M., et al. 2018. Mechanisms underlying the lack of endogenous processing and CLIP-mediated binding of the invariant chain by HLA-DP^{84Gly}. Sci. Rep. 8: 4804.
3. Rijvers, L., et al. 2020. The role of autoimmunity-related gene CLEC16A in the B cell receptor-mediated HLA class II pathway. J. Immunol. 205: 945-956.
4. Song, S., et al. 2021. Allo-specific humoral responses: new methods for screening donor-specific antibody and characterization of HLA-specific memory B cells. Front. Immunol. 12: 705140.
5. Kuželová, K., et al. 2022. NPM1 and DNMT3A mutations are associated with distinct blast immunophenotype in acute myeloid leukemia. Oncoimmunology 11: 2073050.

RESEARCH USE

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