

CIITA (E-12): sc-376174

BACKGROUND

The mounting of an immune response and CD4 T cell development in vertebrates require the expression of major histocompatibility complex (MHC) class II molecules. MHC class II molecules are heterodimeric cell surface glycoproteins expressed on B cells, macrophages and dendritic cells, which present antigens to CD4⁺ T cells. CIITA (class II transactivator) acts as a coactivator for MHC class II-specific gene expression and negatively regulates the IL-4 gene promoter during T cell differentiation. IFN- γ induces CIITA gene expression via JAK1 and Stat1 pathways. The GTP-binding and acidic, proline-serine-threonine-rich regions appear to be required for CIITA activity. RFX-B (also designated RFXANK and Tvl-1) is the smallest subunit of the RFX complex, which is also required for MHC class II-specific gene transcription. RFX-B contains three ankyrin-repeats that may allow protein-protein interactions between RFX-B and other RFX subunits, and possibly with CIITA and NF- κ B. Defects of CIITA and RFX-B have been implicated as causes of bare lymphocyte syndrome (BLS), which is characterized by the absence of MHC class II transcription and severe immunodeficiencies.

CHROMOSOMAL LOCATION

Genetic locus: CIITA (human) mapping to 16p13.13; Ciita (mouse) mapping to 16 A1.

SOURCE

CIITA (E-12) is a mouse monoclonal antibody raised against amino acids 831-1130 mapping at the C-terminus of CIITA of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-376174 X, 200 μ g/0.1 ml.

RESEARCH USE

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

APPLICATIONS

CIITA (E-12) is recommended for detection of CIITA of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CIITA siRNA (h): sc-37739, CIITA siRNA (m): sc-37740, CIITA shRNA Plasmid (h): sc-37739-SH, CIITA shRNA Plasmid (m): sc-37740-SH, CIITA shRNA (h) Lentiviral Particles: sc-37739-V and CIITA shRNA (m) Lentiviral Particles: sc-37740-V.

CIITA (E-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

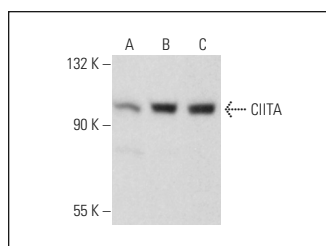
Molecular Weight of CIITA: 130 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or K-562 whole cell lysate: sc-2203.

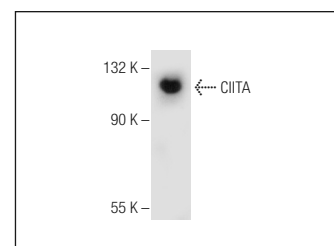
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



CIITA (E-12): sc-376174. Western blot analysis of CIITA expression in K-562 (A), NIH/3T3 (B) and A-10 (C) whole cell lysates.



CIITA (E-12): sc-376174. Western blot analysis of CIITA expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

- Fu, X., et al. 2015. Comparison of immunological characteristics of mesenchymal stem cells derived from human embryonic stem cells and bone marrow. *Tissue Eng. Part A* 21: 616-626.
- Palma, M.L., et al. 2017. Development of potent class II transactivator gene delivery systems capable of inducing *de novo* MHC II expression in human cells, *in vitro* and *ex vivo*. *Gene Ther.* 24: 342-352.
- McCaw, T.R., et al. 2019. The expression of MHC class II molecules on murine breast tumors delays T-cell exhaustion, expands the T-cell repertoire, and slows tumor growth. *Cancer Immunol. Immunother.* 68: 175-188.

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.