

CIITA (V-19): sc-9869

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.

REFERENCES

- Steimle, V., et al. 1993. Complementation cloning of an MHC class II transactivator mutated in hereditary MHC class II deficiency (or bare lymphocyte syndrome). *Cell* 75: 135-146.
- Chin, K.C., et al. 1994. Molecular analysis of G1B and G3A IFN- γ mutants reveals that defects in CIITA or RFX result in defective class II MHC and li gene induction. *Immunity* 1: 687-697.
- Boss, J.M. 1997. Regulation of transcription of MHC class II genes. *Curr. Opin. Immunol.* 9: 107-113.
- Moreno, C.S., et al. 1997. Regulatory factor X, a bare lymphocyte syndrome transcription factor, is a multimeric phosphoprotein complex. *J. Immunol.* 158: 5841-5848.

CHROMOSOMAL LOCATION

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

SOURCE

CIITA (V-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CIITA of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9869 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-9869 X, 200 μ g/0.1 ml.

STORAGE

Store at 4 $^{\circ}$ C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

CIITA (V-19) is recommended for detection of CIITA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

CIITA (V-19) is also recommended for detection of CIITA in additional species, including equine, canine, bovine and porcine.

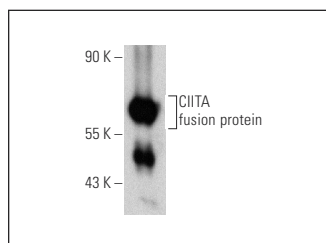
Suitable for use as control antibody for CIITA siRNA (h): sc-37739, CIITA siRNA (m): sc-37740, CIITA shRNA Plasmid (h): sc-37739-SH, CIITA shRNA Plasmid (m): sc-37740-SH, CIITA shRNA (h) Lentiviral Particles: sc-37739-V and CIITA shRNA (m) Lentiviral Particles: sc-37740-V.

CIITA (V-19) 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.

DATA



CIITA (V-19): sc-9869. Western blot analysis of human recombinant CIITA fusion protein.

SELECT PRODUCT CITATIONS

- Drozina, G., et al. 2006. Sequential modifications in class II transactivator isoform 1 induced by lipopolysaccharide stimulate major histocompatibility complex class II transcription in macrophages. *J. Biol. Chem.* 281: 39963-39970.

RESEARCH USE

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

PROTOCOLS

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



Try **CIITA (7-1H): sc-13556** or **CIITA (E-12): sc-376174**, our highly recommended monoclonal alternatives to CIITA (V-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **CIITA (7-1H): sc-13556**.