SANTA CRUZ BIOTECHNOLOGY, INC.

CBARA1 (D-10): sc-518183

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The EF-hand domain is a 12 amino acid loop motif that is commonly found in proteins that participate in calcium binding events within the cell. EF-hand domains generally exist in a pair that together form a stable four-helix bundle that enables the binding of calcium ions. CBARA1 (calcium binding atopy-related autoantigen 1), also known as CALC or EFHA3, is a 476 amino acid single-pass membrane protein that contains two EF-hand domains. Expressed at high levels in epidermal keratinocytes and dermal endothelial cells, CBARA1 functions to induce T cell-mediated autoreactivity, which is accompanied by the release of IFN-γ and can induce an allergic reaction that leads to the formation of IgE. IgE can bind to otherwise innocuous environmental particles and, upon binding, can induce cross-linking with an IgE receptor, an event that is associated with atopic dermatitis (AD). Multiple isoforms of CBARA1 exist due to alternative splicing events.

REFERENCES

1. Moncrief, N.D., Kretsinger, R.H. and Goodman, M. 1990. Evolution of EF-hand calcium-modulated proteins. I. Relationships based on amino acid sequences. J. Mol. Evol. 30: 522-562.
2. Nakayama, S., Moncrief, N.D. and Kretsinger, R.H. 1992. Evolution of EF-hand calcium-modulated proteins. II. Domains of several subfamilies have diverse evolutionary histories. J. Mol. Evol. 34: 416-448.
3. Maruyama, K. and Sugano, S. 1994. Oligo-capping: a simple method to replace the cap structure of eukaryotic mRNAs with oligoribonucleotides. Gene 138: 171-174.
4. Kawasaki, H. and Kretsinger, R.H. 1995. Calcium-binding proteins 1: EF-hands. Protein Profile 2: 297-490.
5. Natter, S., Seiberler, S., Hufnagl, P., Binder, B.R., Hirschl, A.M., Ring, J., Abeck, D., Schmidt, T., Valent, P. and Valenta, R. 1998. Isolation of cDNA clones coding for IgE autoantigens with serum IgE from atopic dermatitis patients. FASEB J. 12: 1559-1569.

CHROMOSOMAL LOCATION

Genetic locus: MICU1 (human) mapping to 10q22.1.

SOURCE

CBARA1 (D-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 304-327 of CBARA1 of human origin.

PRODUCT

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

CBARA1 (D-10) is available conjugated to agarose (sc-518183 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518183 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518183 PE), fluorescein (sc-518183 FITC), Alexa Fluor® 488 (sc-518183 AF488), Alexa Fluor® 546 (sc-518183 AF546), Alexa Fluor® 594 (sc-518183 AF594) or Alexa Fluor® 647 (sc-518183 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518183 AF680) or Alexa Fluor® 790 (sc-518183 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CBARA1 (D-10) is recommended for detection of CBARA1 of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CBARA1 siRNA (h): sc-90788, CBARA1 shRNA Plasmid (h): sc-90788-SH and CBARA1 shRNA (h) Lentiviral Particles: sc-90788-V.

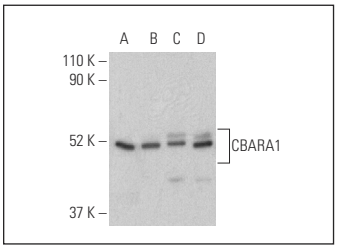
Molecular Weight of CBARA1: 54 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, U-251-MG whole cell lysate: sc-364176 or RT-4 whole cell lysate: sc-364257.

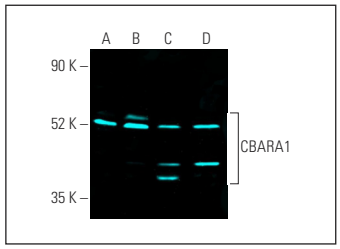
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



CBARA1/MICU1 Antibody (D-10): sc-518183. Western blot analysis of CBARA1 expression in K-562 (**A**), RT-4 (**B**), U-251-MG (**C**) and PC-3 (**D**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



CBARA1 (D-10): sc-518183. Fluorescent western blot analysis of CBARA1 expression in SK-OV-3 (**A**), PC-3 (**B**), RT-4 (**C**) and K-562 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 647: sc-516179.

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.

PROTOCOLS

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