SANTA CRUZ BIOTECHNOLOGY, INC.

CRABP-I/II (F-9): sc-166897

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cellular retinoic acid-binding protein (CRABP)-I and a related isoform, CRABP-II, bind retinoic acid (RA), an important regulator of cell growth and differentiation in fetal and adult tissues. These CRABP proteins mediate the downstream effects of RA in distinct ways. CRABP-I negatively regulates the activity of RA by enhancing the production of RA-metabolizing enzymes and increasing the rate at which RA is degraded. CRABP-II enhances the effects of RA by directly interacting with RA receptors (RAR) and, in turn, promoting the formation of RAR-RA complexes and stimulating RA-mediated gene transcription. Both CRABP-I and CRABP-II are expressed in the embryo, and CRABP-I is ubiquitously expressed in various adult tissues. The expression of CRABP-II is elevated in cells that synthesize relatively large amounts of RA, and it is also predominantly expressed in skin, uterus, ovary and in the choroid plexus.

REFERENCES

1. Wei, L.N., et al. 1990. Molecular cloning and transcriptional mapping of the mouse cellular retinoic acid-binding protein gene. DNA Cell Biol. 9: 471-478.
2. Giguere, V., et al. 1990. Molecular cloning of cDNA encoding a second cellular retinoic acid-binding protein. Proc. Natl. Acad. Sci. USA 87: 6233-6237.
3. Boylan, J.F. and Gudas, L.J. 1992. The level of CRABP-I expression influences the amounts and types of all-*trans*-retinoic acid metabolites in F9 teratocarcinoma stem cells. J. Biol. Chem. 267: 21486-21491.

CHROMOSOMAL LOCATION

Genetic locus: CRABP1 (human) mapping to 15q25.1, CRABP2 (human) mapping to 1q23.1; Crabp1 (mouse) mapping to 9 A5.3, Crabp2 (mouse) mapping to 3 F1.

SOURCE

CRABP-I/II (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 26-130 of CRABP-I 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.

CRABP-I/II (F-9) is available conjugated to agarose (sc-166897 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166897 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166897 PE), fluorescein (sc-166897 FITC), Alexa Fluor® 488 (sc-166897 AF488), Alexa Fluor® 546 (sc-166897 AF546), Alexa Fluor® 594 (sc-166897 AF594) or Alexa Fluor® 647 (sc-166897 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166897 AF680) or Alexa Fluor® 790 (sc-166897 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.

APPLICATIONS

CRABP-I/II (F-9) is recommended for detection of CRABP-I and CRABP-II of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

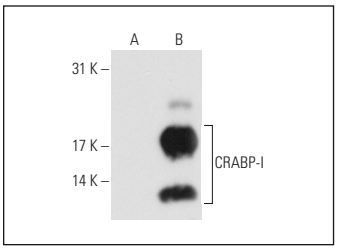
Molecular Weight of CRABP-I/II: 15 kDa.

Positive Controls: CRABP-I (h): 293T Lysate: sc-159411.

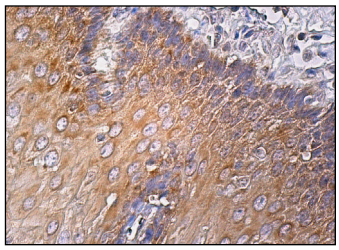
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CRABP-I/II (F-9): sc-166897. Western blot analysis of CRABP-I expression in non-transfected: sc-117752 (**A**) and human CRABP-I transfected: sc-159411 (**B**) 293T whole cell lysates.



CRABP-I/II (F-9): sc-166897. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Di Giorgio, E., et al. 2020. Mef2d sustains activation of effector FOXP3+ tregs during transplant survival and anticancer immunity. J. Clin. Invest. 130: 6242-6260.
2. Giorgio, E.D., et al. 2021. A regulative epigenetic circuit supervised by HDAC7 represses IGFBP6 and IGFBP7 expression to sustain mammary stemness. Epigenomics 13: 683-698.
3. Sun, N., et al. 2021. DCX and CRABP2 are candidate genes for differential diagnosis between pre-chemotherapy embryonic and alveolar rhabdomyosarcoma in pediatric patients. Pediatr. Investig. 5: 106-111.

RESEARCH USE

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