SANTA CRUZ BIOTECHNOLOGY, INC.

RARβ (C-19): sc-552

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Retinoids (RAs) activate the retinoic acid receptor (RAR) and retinoid X receptor (RXR) nuclear transcription factor families and thus modulate the effects of RA on gene expression. Most retinoid forms (including all *trans* RA, 9-*cis* RA, 4oxo RA and 3,4 dihydro RA) activate RAR family members, whereas RXR family members are activated by 9-*cis*-RA only. RAR family members, which include RARα, RARβ and RARγ, belong to the same class of nuclear transcription factors as thyroid hormone receptors, vitamin D3 receptor and ecdysone receptor. The human RARβ gene maps to chromosome 3p24.2 and encodes two isoforms, $RAR\beta_1$ and $RAR\beta_2$. The $RAR\beta_2$ isoform may act as a tumor suppressor gene by inducing apoptosis. This role for $RAR\beta_2$ may explain the chemopreventive and therapeutic effects of retinoids. $RAR\beta_2$ expression is diminished or lost completely during breast cancer progression. RARβ expression also decreases in over 50% of oral and lung premalignant lesions; loss of RARβ expression may contribute to carcinogenesis.

CHROMOSOMAL LOCATION

Genetic locus: RARB (human) mapping to 3p24.2; Rarb (mouse) mapping to 14 A2.

SOURCE

RARβ (C-19) is available as either rabbit (sc-552) or goat (sc-552-G) affinity purified polyclonal antibody raised against a peptide mapping at the C-terminus of RARβ of human origin.

PRODUCT

Each vial contains either 100 µg (sc-552) or 200 µg (sc-552-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-552 P, (100 µg 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-552 X, 200 µg/0.1 ml.

APPLICATIONS

RARβ (C-19) is recommended for detection of $RAR\beta_1$ and $RAR\beta_2$ 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). RARβ (C-19) is also recommended for detection of $RAR\beta_1$ and $RAR\beta_2$ in additional species, including equine, canine and porcine.

Suitable for use as control antibody for RARβ siRNA (h): sc-29466, RARβ siRNA (m): sc-36391, RARβ shRNA Plasmid (h): sc-29466-SH, RARβ shRNA Plasmid (m): sc-36391-SH, RARβ shRNA (h) Lentiviral Particles: sc-29466-V and RARβ shRNA (m) Lentiviral Particles: sc-36391-V.

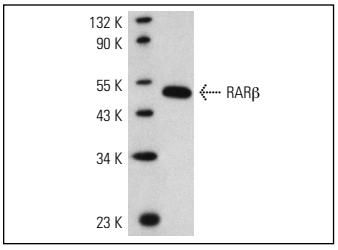
RARβ (C-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RARβ: 51 kDa.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



RARβ (C-19): sc-552. Western blot analysis of RARβ expression in U-87 MG whole cell lysate.

SELECT PRODUCT CITATIONS

1. Panariello, L., et al. 1996. Identification of a novel retinoic acid response element in the promoter region of the retinol-binding protein gene. J. Biol. Chem. 271: 25524-25532.
2. Koay, D.C., et al. 2010. Anti-tumor effects of retinoids combined with trastuzumab or tamoxifen in breast cancer cells: induction of apoptosis by retinoid/trastuzumab combinations. Breast Cancer Res. 12: R62.
3. Masuda, M., et al. 2010. Regulation of renal sodium-dependent phosphate co-transporter genes (Npt2a and Npt2c) by all-*trans*-retinoic acid and its receptors. Biochem. J. 429: 583-592.
4. Goumy, C., et al. 2010. Fetal skin fibroblasts: a cell model for studying the retinoid pathway in congenital diaphragmatic hernia. Birth Defects Res. Part A Clin. Mol. Teratol. 88: 195-200.
5. Fernández-Martínez, A.B., et al. 2011. Mutual regulation of hypoxic and retinoic acid related signalling in tubular proximal cells. Int. J. Biochem. Cell Biol. 43: 1198-1207.
6. Haddad, M.E., et al. 2012. Glutathione peroxidase 3, a new retinoid target gene, is critical for human skeletal muscle precursor cell survival. J. Cell Sci. 125: 6147-6156.
7. Fernández-Martínez, A.B., et al. 2012. Intracrine prostaglandin E(2) signalling regulates hypoxia-inducible factor-1α expression through retinoic acid receptor-β. Int. J. Biochem. Cell Biol. 44: 2185-2193.

RESEARCH USE

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