SANTA CRUZ BIOTECHNOLOGY, INC.

RARβ$_2$ (H-55): sc-14028

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Retinoids (RA) are metabolites of vitamin A (retinol) that are important signaling molecules during vertebrate development and tissue differentiation. 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 3p25-p21 and encodes two isoforms, RARβ$_1$ and RARβ$_2$. The RARβ$_2$ isoform may act as a tumor suppressor gene by inducing apoptosis. This role for RARβ$_2$ may explain the chemopreventive and therapeutic effects of retinoids. RARβ$_2$ expression is diminished or lost completely during breast cancer progression. RARβ expression also decreases in over 50 percent of oral and lung premalignant lesions; loss of RARβ expression may contribute to carcinogenesis.

CHROMOSOMAL LOCATION

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

SOURCE

RARβ$_2$ (H-55) is a rabbit polyclonal antibody raised against amino acids 1-55 mapping at the N-terminus of RARβ$_2$ of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-14028 X, 200 µg/0.1 ml.

APPLICATIONS

RARβ$_2$ (H-55) is recommended for detection of RARβ$_2$ 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with RARβ$_1$.

RARβ$_2$ (H-55) is also recommended for detection of RARβ$_2$ in additional species, including canine, bovine 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$_2$ (H-55) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

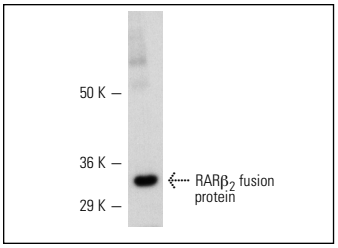
Molecular Weight of RARβ$_2$: 51 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, HL-60 whole cell lysate: sc-2209 or K-562 nuclear extract: sc-2130.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



RARβ$_2$ (H-55): sc-14028. Western blot analysis of human recombinant RARβ$_2$ fusion protein.

SELECT PRODUCT CITATIONS

1. Wargon, V., et al. 2010. Hypermethylation of the progesterone receptor A in constitutive antiprogestin-resistant mouse mammary carcinomas. Breast Cancer Res. Treat. 126: 319-332.
2. Arrieta, O., et al. 2010. Randomized phase II trial of All-*trans*-retinoic acid with chemotherapy based on paclitaxel and cisplatin as first-line treatment in patients with advanced non-small-cell lung cancer. J. Clin. Oncol. 28: 3463-3471.
3. Kim, W.Y., et al. 2011. RARβ expression is associated with early volumetric changes to radiation therapy in cervical cancer. Gynecol. Obstet. Invest. 71: 11-18.

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.