SANTA CRUZ BIOTECHNOLOGY, INC.

RORα (C-16): sc-6062

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Retinoids are metabolites of vitamin A (retinol) and represent an important class of signaling molecule during vertebrate development and tissue differentiation. A large group of nuclear transcription factors, including vitamin D_3 receptor (VDR), thyroid hormone receptor (TR), RAR, RXR and ecdysone receptor, have a high affinity for retinoic acids and are members of the steroid receptor superfamily. Members of this family act by directly associating with DNA sequences known as hormone response elements (HREs) and bind DNA as either homo- or heterodimers. RORα is a member of the steroid receptor superfamily and is classified as an "orphan receptor" due to the lack of a defined ligand. Two isoforms of RORα have been described and are designated RORα1 and RORα2. RORα, also referred to as RZR, binds DNA as a monomer at consensus RORα response elements (ROREs).

CHROMOSOMAL LOCATION

Genetic locus: RORA (human) mapping to 15q22.2; Rora (mouse) mapping to 9 C.

SOURCE

RORα (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of RORα1 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.

Blocking peptide available for competition studies, sc-6062 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-6062 X, 200 µg/0.1 ml.

APPLICATIONS

RORα (C-16) is recommended for detection of the multiple isoforms of RORα receptors 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).

RORα (C-16) is also recommended for detection of the multiple isoforms of RORα receptors in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for RORα siRNA (h): sc-38862, RORα siRNA (m): sc-38863, RORα shRNA Plasmid (h): sc-38862-SH, RORα shRNA Plasmid (m): sc-38863-SH, RORα shRNA (h) Lentiviral Particles: sc-38862-V and RORα shRNA (m) Lentiviral Particles: sc-38863-V.

RORα (C-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

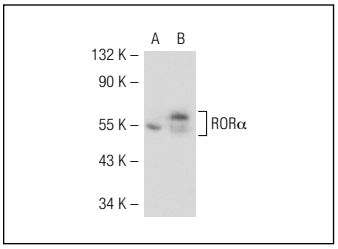
Molecular Weight of RORα: 67 kDa.

Positive Controls: Mouse cerebellum extract: sc-2403, KNRK whole cell lysate: sc-2214 or RORα (m): 293T Lysate: sc-123257.

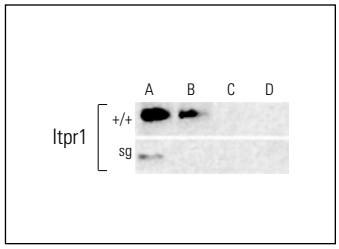
STORAGE

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

DATA



RORα (C-16): sc-6062. Western blot analysis of RORα expression in non-transfected: sc-117752 (**A**) and mouse RORα transfected: sc-123257 (**B**) 293T whole cell lysates.



ChIP analysis of *in vivo* binding of RORα and its recruitment of coactivators to RORα-responsive promoters in freshly dissected cerebella derived from wild type (+/+) and staggerer (Sg) mice. Control Input (**A**). Antibodies used included RORα (C-16): sc-6062 (**B**), TIP60 (N-17): sc-5725 (**C**), CBP (A-22): sc-369 and CBP (C-20): sc-583 (**D**). Data kindly provided by M.G. Rosenfeld and reproduced wtih permission from Gold et al., Neuron 2003, 40: 1119-1131.

SELECT PRODUCT CITATIONS

1. Meyer, T., et al. 2000. *In vitro* and *in vivo* evidence for orphan nuclear RORα function in bone metabolism. Proc. Natl. Acad. Sci. USA 97: 9197-9202.
2. Bordji, K., et al. 2000. Evidence for the presence of peroxisome proliferator-activated receptor (PPAR) α and γ and retinoid Z receptor in cartilage. PPARγ activation modulates the effects of interleukin-1β on rat chondrocytes. J. Biol. Chem. 275: 12243-12250.
3. Boukhtouche, F., et al. 2010. Induction of early Purkinje cell dendritic differentiation by thyroid hormone requires RORα. Neural Dev. 5: 18.
4. Raichur, S., et al. 2010. Identification and validation of the pathways and functions regulated by the orphan nuclear receptor, ROR α1, in skeletal muscle. Nucleic Acids Res. 38: 4296-4312.
5. Poliandri, A.H., et al. 2011. Modulation of clock gene expression by the transcriptional coregulator receptor interacting protein 140 (RIP140). J. Biol. Rhythms 26: 187-199.
6. Kang, H.S., et al. 2011. Transcriptional profiling reveals a role for RORα in regulating gene expression in obesity-associated inflammation and hepatic steatosis. Physiol. Genomics 43: 818-828.
7. Wilson, S.L., et al. 2011. Spatially restricted and developmentally dynamic expression of engrailed genes in multiple cerebellar cell types. Cerebellum 10: 356-372.
8. Takeda, Y., et al. 2012. RORγ directly regulates the circadian expression of clock genes and downstream targets *in vivo*. Nucleic Acids Res. 40: 8519-8535.

RESEARCH USE

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