SANTA CRUZ BIOTECHNOLOGY, INC.

PPARα (C-20): sc-1982

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Peroxisome proliferator-activated receptors (PPARs) are nuclear hormone receptors that can be activated by a variety of compounds including fibratus, thiazo- lidinediones, prostaglandins and fatty acids. Three PPAR subtypes, designated PPARα, PPARβ and PPARγ, have been described. PPARs promote transcription by forming heterodimers with members of the retinoid X receptor (RXR) family of steroid receptors and binding to specific DNA motifs termed PPAR-response elements (PPREs). PPARα is abundant in primary hepatocytes where it regulates the expression of proteins involved in fatty acid metabolism. PPARβ is the most widely distributed subtype and is often expressed at high levels. PPARγ is predominantly seen in adipose tissue where it plays a critical role in regulating adipocyte differentiation. Interestingly, both the orphan nuclear hormone receptor LXRα and thyroid receptor (TR) have been shown to act as antagonists of PPARα/RXRα binding to PPREs.

REFERENCES

1. Brun, R.P., et al. 1996. Differential activation of adipogenesis by multiple PPAR isoforms. Genes Dev. 10: 974-984.
2. Mansen, A., et al. 1996. Expression of the peroxisome proliferator-activated receptor (PPAR) in the mouse colonic mucosa. Biochem. Biophys. Res. Comm. 222: 844-851.
3. Sterchele, P.F., et al. 1996. Regulation of peroxisome proliferator-activated receptor-α mRNA in rat liver. Arch. Biochem. Biophys. 326: 281-289.
4. Lemberger, T., et al. 1996. Expression of the peroxisome proliferator-activated receptor α gene is stimulated by stress and follows a diurnal rhythm. J. Biol. Chem. 271: 1764-1769.
5. Braissant, O., et al. 1996. Differential expression of peroxisome proliferator-activated receptors (PPARs): tissue distribution of PPAR-α, -β, and -γ in the adult rat. Endocrinol. 137: 354-366.
6. Miyata, K.S., et al. 1996. The orphan nuclear hormone receptor LXRα interacts with the peroxisome proliferator-activated receptor and inhibits peroxisome proliferator signaling. J. Biol. Chem. 271: 9189-9192.

CHROMOSOMAL LOCATION

Genetic locus: PPARa (human) mapping to 17p11.2; Ppara (mouse) mapping to 15 E2.

SOURCE

PPARα (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PPARα of human origin.

PROTOCOLS

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

RESEARCH USE

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

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-1982 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-1982 X, 200 µg/0.1 ml.

APPLICATIONS

PPARα (C-20) is recommended for detection of PPARα of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); weakly cross-reactive with PPARβ and PPARγ.

Suitable for use as control antibody for PPARα siRNA (h): sc-36307, PPARα siRNA (m): sc-36308, and PPARα siRNA (h2): sc-44323; and as shRNA Plasmid control antibody for PPARα shRNA Plasmid (h): sc-36307-SH, PPARα shRNA Plasmid (m): sc-36308-SH, and PPARα shRNA Plasmid (h2): sc-44323-SH.

PPARα (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PPARα: 55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Linseman, D.A., et al. 2001. Liporegulation in diet-induced obesity. The antisteatotic role of hyperleptinemia. J. Biol. Chem. 276: 5629-5759.
2. Tordjman, K., et al. 2001. PPAR deficiency reduces insulin resistance and atherosclerosis in apoE-null mice. J. Clin. Invest. 107: 1025-1034.
3. Cammas, L., et al. 2006. Developmental regulation of prostacyclin synthase and prostacyclin receptors in the ovine uterus and conceptus during the peri-implantation period. Reproduction 131: 917-927.

STORAGE

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