



PPAR α (C-20): sc-1982

BACKGROUND

Peroxisome proliferator-activated receptors (PPARs) are nuclear hormone receptors that can be activated by a variety of compounds including fibrates, thiazolidinediones, prostaglandins and fatty acids. Three PPAR subtypes, designated PPAR α , PPAR β and PPAR γ , 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). PPAR α is abundant in primary hepatocytes where it regulates the expression of proteins involved in fatty acid metabolism. PPAR β is the most widely distributed subtype and is often expressed at high levels. PPAR γ is predominantly seen in adipose tissue where it plays a critical role in regulating adipocyte differentiation. Interestingly, both the orphan nuclear hormone receptor LXR α and thyroid receptor (TR) have been shown to act as antagonists of PPAR α /RXR α 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. *Endocrinology* 137: 354-366.
6. Miyata, K.S., et al. 1996. The orphan nuclear hormone receptor LXR α 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

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

STORAGE

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

PROTOCOLS

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

PRODUCT

Each vial contains 200 μ g 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 μ g 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 μ g/0.1 ml.

APPLICATIONS

PPAR α (C-20) is recommended for detection of PPAR α 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 PPAR β and PPAR γ .

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

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

Molecular Weight of PPAR α : 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 antistatotic role of hyperleptinemia. *J. Biol. Chem.* 276: 5629-5759.
2. Tordjman, K., et al. 2001. PPAR α 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.

RESEARCH USE

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