

# PPAR $\alpha$ (N-19): sc-1985

## 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 $\alpha$ , PPAR $\beta$  (also designated PPAR $\delta$ ) and PPAR $\gamma$ , 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 $\alpha$  is abundant in primary hepatocytes where it regulates the expression of proteins involved in fatty acid metabolism. PPAR $\beta$  is the most widely distributed subtype and is often expressed at high levels. PPAR $\gamma$  is predominantly seen in adipose tissue where it plays a critical role in regulating adipocyte differentiation. Interestingly, both the orphan nuclear hormone receptor LXR $\alpha$  and thyroid receptor (TR) have been shown to act as antagonists of PPAR $\alpha$ /RXR $\alpha$  binding to PPREs.

## REFERENCES

- 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.

## CHROMOSOMAL LOCATION

Genetic locus: PPAR $\alpha$  (human) mapping to 17p11.2; Ppara (mouse) mapping to 15E2.

## SOURCE

PPAR $\alpha$  (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PPAR $\alpha$  of human origin.

## SELECT PRODUCT CITATIONS

- Xin, X., et al. 1999. Peroxisome proliferator-activated receptor Y ligands are potent Inhibitors of angiogenesis *in vitro* and *in vivo*. *J. Biol. Chem.* 274: 9116-9121.
- Bishop-Bailey, D., et al. 1999. Endothelial cell apoptosis induced by the peroxisome proliferator-activated receptor (PPAR) ligand 15-deoxy- $\delta$  12, 14-prostaglandin J2. *J. Biol. Chem.* 274: 17042-17048.
- Barbera, M.J., et al. 2001. Peroxisome Proliferator-activated receptor  $\alpha$  activates transcription of the brown fat uncoupling protein-1 Gene. A link between regulation of the thermogenic and lipid oxidation pathways in the brown fat cell. *J. Biol. Chem.* 276: 1486-1493.
- Huss, J., et al. 2001. Hypoxia inhibits the peroxisome proliferator-activated receptor  $\alpha$ /retinoid X receptor gene regulatory pathway in cardiac myocytes: a mechanism for O<sub>2</sub>-dependent modulation of mitochondrial fatty acid oxidation. *J. Biol. Chem.* 276: 27605-27612.
- Cernuda-Morollon, E., et al. 2002. PPAR agonists amplify iNOS expression while inhibiting NF- $\kappa$ B: implications for mesangial cell activation by cytokines. *J. Am. Soc. Nephrol.* 13: 2223-2231.
- Jung, D., et al. 2002. Human apical sodium-dependent bile salt transporter gene (SLC10A2) is regulated by the peroxisome proliferator-activated receptor  $\alpha$ . *J. Biol. Chem.* 277: 30559-30566.

## APPLICATIONS

PPAR $\alpha$  (N-19) is recommended for detection of PPAR $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

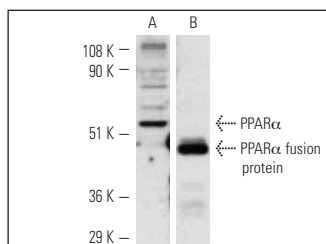
Suitable for use as control antibody for PPAR $\alpha$  siRNA (h): sc-36307, PPAR $\alpha$  siRNA (m): sc-36308, and PPAR $\alpha$  siRNA (h2): sc-44323; and as shRNA Plasmid control antibody for PPAR $\alpha$  shRNA Plasmid (h): sc-36307-SH, PPAR $\alpha$  shRNA Plasmid (m): sc-36308-SH, and PPAR $\alpha$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

PPAR $\alpha$  (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PPAR $\alpha$ : 55 kDa.

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

## DATA



Western blot analysis of PPAR $\alpha$  expression in Hep G2 whole cell lysate (A) and human recombinant PPAR $\alpha$  fusion protein (B). Antibodies tested include: PPAR $\alpha$  (H-98): sc-9000 (A) and PPAR $\alpha$  (N-19): sc-1985 (B).

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1985 P, (100  $\mu$ 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-1985 X, 200  $\mu$ g/0.1 ml.

## STORAGE

Store at 4 $^{\circ}$  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.