



PPAR β (C-20): sc-1983

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 (also designated PPAR δ) 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. 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.
5. 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.
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.
7. Hunter, J., et al. 1996. Crosstalk between the thyroid hormone and peroxisome proliferator-activated receptors in regulating peroxisome proliferator-responsive genes. *Mol. Cell. Endocrinol.* 116: 213-221.

CHROMOSOMAL LOCATION

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

SOURCE

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

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-1983 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-1983 X, 200 μ g/0.1 ml.

APPLICATIONS

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

Suitable for use as control antibody for PPAR β siRNA (h): sc-36305 and PPAR β siRNA (m): sc-36306; and as shRNA Plasmid control antibody for PPAR β shRNA Plasmid (h): sc-36305-SH and PPAR β shRNA Plasmid (m): sc-36306-SH.

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

Molecular Weight of PPAR β : 52 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132 or Sol8 nuclear extract: sc-2157.

SELECT PRODUCT CITATIONS

1. Francois, M., et al. 2004. Peroxisome proliferator-activated receptor-gamma down-regulates chondrocyte matrix metalloproteinase-1 via a novel composite element. *J. Biol. Chem.* 279: 28411-28418.
2. Pedraza, N., et al. 2006. Developmental and tissue-specific involvement of peroxisome proliferator-activated receptor- α in the control of mouse uncoupling protein-3 gene expression. *Endocrinology* 147: 4695-4704.
3. Petridou, A., et al. 2007. Long-term exercise increases the DNA binding activity of peroxisome proliferator-activated receptor γ in rat adipose tissue. *Metab. Clin. Exp.* 56: 1029-1036.

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.