SANTA CRUZ BIOTECHNOLOGY, INC.

PPARβ (C-20): sc-1983

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, thiazolidinediones, prostaglandins and fatty acids. Three PPAR subtypes, designated PPARα, PPARβ (also designated PPARδ) 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. Commun. 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 PPARα, β, and γ in the adult rat. Endocrinology 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.

CHROMOSOMAL LOCATION

Genetic locus: PPARD (human) mapping to 6p21.31; Ppard (mouse) mapping to 17 A3.3.

SOURCE

PPARβ (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PPARβ 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-1983 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-1983 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

PPARβ (C-20) is recommended for detection of PPARβ (also designated PPARδ) 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); may cross-react with PPARα and PPARγ.

PPARβ (C-20) is also recommended for detection of PPARβ (also designated PPARδ) in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PPARβ siRNA (h): sc-36305, PPARβ siRNA (m): sc-36306, PPARβ shRNA Plasmid (h): sc-36305-SH, PPARβ shRNA Plasmid (m): sc-36306-SH, PPARβ shRNA (h) Lentiviral Particles: sc-36305-V and PPARβ shRNA (m) Lentiviral Particles: sc-36306-V.

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

Molecular Weight of PPARβ: 52 kDa.

Positive Controls: RAW 264.7 nuclear extract: sc-24961, Jurkat nuclear extract: sc-2132 or Sol8 nuclear extract: sc-2157.

SELECT PRODUCT CITATIONS

1. Francois, M., et al. 2004. Peroxisome proliferator-activated receptor-γ down-regulates chondrocyte matrix metalloproteinase-1 via a novel composite element. J. Biol. Chem. 279: 28411-28418.
2. Planavila, A., et al. 2005. Atorvastatin prevents peroxisome proliferator-activated receptor γ coactivator-1 (PGC-1) downregulation in lipopolysaccharide-stimulated H9c2 cells. Biochim. Biophys. Acta 1736: 120-127.
3. Planavila, A., et al. 2005. Peroxisome proliferator-activated receptor β/δ activation inhibits hypertrophy in neonatal rat cardiomyocytes. Cardiovasc. Res. 65: 832-841.
4. 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.
5. 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.