SANTA CRUZ BIOTECHNOLOGY, INC.

PPARβ (N-20): sc-1986

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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. 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. 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: PPARD (human) mapping to 6p21.31.

SOURCE

PPARβ (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-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-1986 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-1986 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

PPARβ (N-20) is recommended for detection of PPARβ (also designated PPARδ) of 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 PPARβ siRNA (h): sc-36305, PPARβ shRNA Plasmid (h): sc-36305-SH and PPARβ shRNA (h) Lentiviral Particles: sc-36305-V.

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

Molecular Weight of PPARβ: 52 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132 or Jurkat whole cell lysate: sc-2204.

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. Yin, Y., et al. 2005. Peroxisome proliferator-activated receptor δ and γ agonists differentially alter tumor differentiation and progression during mammary carcinogenesis. Cancer Res. 65: 3950-3957.
2. de Lange, P., et al. 2006. Sequential changes in the signal transduction responses of skeletal muscle following food deprivation. FASEB J. 20: 2579-2581.
3. Holdsworth-Carson, S.J., et al. 2009. Peroxisome proliferator-activated receptors and retinoid X receptor-α in term human gestational tissues: tissue specific and labour-associated changes. Placenta 30: 176-186.
4. Ho, T.C., et al. 2011. Pigment epithelium-derived factor (PEDF) promotes tumor cell death by inducing macrophage membrane tumor necrosis factor-related apoptosis-inducing ligand (TRAIL). J. Biol. Chem. 286: 35943-35954.

RESEARCH USE

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