SANTA CRUZ BIOTECHNOLOGY, INC.

PPARβ (F-10): sc-74517

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.

CHROMOSOMAL LOCATION

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

SOURCE

PPARβ (F-10) is a mouse monoclonal antibody raised against amino acids 2-75 of PPARβ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-74517 X, 200 µg/0.1 ml.

PPARβ (F-10) is available conjugated to agarose (sc-74517 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74517 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74517 PE), fluorescein (sc-74517 FITC), Alexa Fluor® 488 (sc-74517 AF488), Alexa Fluor® 546 (sc-74517 AF546), Alexa Fluor® 594 (sc-74517 AF594) or Alexa Fluor® 647 (sc-74517 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74517 AF680) or Alexa Fluor® 790 (sc-74517 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

PPARβ (F-10) is recommended for detection of PPARβ of mouse, rat and human origin by Western Blotting (starting dilu-tion 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

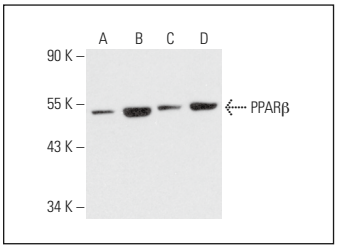
Suitable for use as control antibody for PPARβ siRNA (h): sc-36305, PPARβ siRNA (m): sc-36306, PPARβ shRNA Plasmid (h): sc-36305-SH, PPARβ shRNA Plasmid (m): sc-36306-SH, PPARβ shRNA (h) Lentiviral Particles: sc-36305-V and PPARβ shRNA (m) Lentiviral Particles: sc-36306-V.

PPARβ (F-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

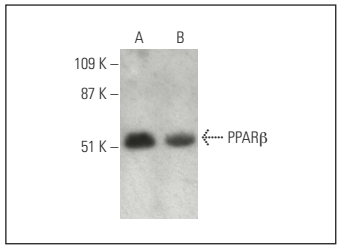
Molecular Weight of PPARβ: 52 kDa.

Positive Controls: RAW 309 Cr.1 cell lysate: sc-3814, Sol8 cell lysate: sc-2249 or RAW 264.7 whole cell lysate: sc-2211.

DATA



PPARβ (F-10): sc-74517. Western blot analysis of PPARβ expression in Sol8 (**A**), RAW 264.7 (**B**), HeLa (**C**) and K-562 (**D**) whole cell lysates.



PPARβ (F-10) HRP: sc-74517 HRP. Direct western blot analysis of PPARβ expression in RAW 309 Cr.1 whole cell lysate (**A**) and Jurkat nuclear extract (**B**).

SELECT PRODUCT CITATIONS

1. Bonofiglio, D., et al. 2005. Estrogen receptor α binds to peroxisome proliferator-activated receptor response element and negatively interferes with peroxisome proliferator-activated receptor γ signaling in breast cancer cells. Clin. Cancer Res. 11: 6139-6147.
2. Piragyte, I., et al. 2018. A metabolic interplay coordinated by HLX regulates myeloid differentiation and AML through partly overlapping pathways. Nat. Commun. 9: 3090.
3. Zhang, X., et al. 2019. Pioglitazone prevents sevoflurane-induced neuroinflammation and cognitive decline in a rat model of chronic intermittent hypoxia by upregulating hippocampal PPAR-γ. Mol. Med. Rep. 19: 3815-3822.
4. Phua, W.W.T., et al. 2020. PPARβ/δ agonism upregulates forkhead box A2 to reduce inflammation in C2C12 myoblasts and in skeletal muscle. Int. J. Mol. Sci. 21: 1747.

RESEARCH USE

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