

# PPAR $\beta$ (F-10): sc-74517

## 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

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  $\alpha$  mRNA in rat liver. *Arch. Biochem. Biophys.* 326: 281-289.

## CHROMOSOMAL LOCATION

Genetic locus: PPAR $\delta$  (human) mapping to 6p21.31; Ppard (mouse) mapping to 17 A3.3.

## SOURCE

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

## PRODUCT

Each vial contains 200  $\mu$ g 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  $\mu$ g/0.1 ml.

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

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

PPAR $\beta$  (F-10) is recommended for detection of PPAR $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

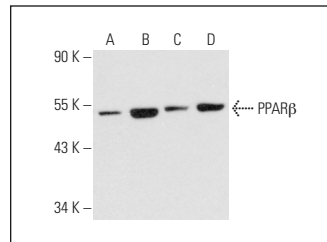
Suitable for use as control antibody for PPAR $\beta$  siRNA (h): sc-36305, PPAR $\beta$  siRNA (m): sc-36306, PPAR $\beta$  shRNA Plasmid (h): sc-36305-SH, PPAR $\beta$  shRNA Plasmid (m): sc-36306-SH, PPAR $\beta$  shRNA (h) Lentiviral Particles: sc-36305-V and PPAR $\beta$  shRNA (m) Lentiviral Particles: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

PPAR $\beta$  (F-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

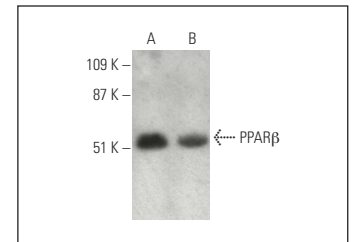
Molecular Weight of PPAR $\beta$ : 52 kDa.

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



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



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

## SELECT PRODUCT CITATIONS

1. Bonfiglio, D., et al. 2005. Estrogen receptor  $\alpha$  binds to peroxisome proliferator-activated receptor response element and negatively interferes with peroxisome proliferator-activated receptor  $\gamma$  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- $\gamma$ . *Mol. Med. Rep.* 19: 3815-3822.
4. Phua, W.W.T., et al. 2020. PPAR $\beta$ / $\delta$  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.