SANTA CRUZ BIOTECHNOLOGY, INC.

PPARα (H-2): sc-398394

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: PPARA (human) mapping to 22q13.31; Ppara (mouse) mapping to 15 E2.

SOURCE

PPARα (H-2) is a mouse monoclonal antibody raised against amino acids 1-98 of PPARα of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-398394 X, 200 µg/0.1 ml.

PPARα (H-2) is available conjugated to agarose (sc-398394 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398394 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398394 PE), fluorescein (sc-398394 FITC), Alexa Fluor® 488 (sc-398394 AF488), Alexa Fluor® 546 (sc-398394 AF546), Alexa Fluor® 594 (sc-398394 AF594) or Alexa Fluor® 647 (sc-398394 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398394 AF680) or Alexa Fluor® 790 (sc-398394 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PPARα (H-2) is recommended for detection of PPARα of mouse, rat and human origin by Western Blotting (starting dilution 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), immunohistochemistry (including paraffin-embedded sections) (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 PPARα siRNA (h): sc-36307, PPARα siRNA (m): sc-36308, PPARα shRNA Plasmid (h): sc-36307-SH, PPARα shRNA Plasmid (m): sc-36308-SH, PPARα shRNA (h) Lentiviral Particles: sc-36307-V and PPARα shRNA (m) Lentiviral Particles: sc-36308-V.

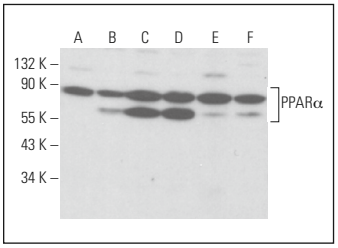
PPARα (H-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PPARα: 55 kDa.

STORAGE

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

DATA



PPARα (H-2): sc-398394. Western blot analysis of PPARα expression in A-10 (**A**), U-87 MG (**B**), Hep G2 (**C**), NCI-H292 (**D**), HEL 92.1.7 (**E**) and AN3 CA (**F**) whole cell lysates.

PPARα (H-2): sc-398394. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing nuclear staining of myocytes. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgG Fc BP-B: sc-533652 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Bellet, M.M., et al. 2016. Histone deacetylase SIRT1 controls proliferation, circadian rhythm, and lipid metabolism during liver regeneration in mice. J. Biol. Chem. 291: 23318-23329.
2. Huang, L., et al. 2018. Inhibition of protein arginine methyltransferase 5 enhances hepatic mitochondrial biogenesis. J. Biol. Chem. 293: 10884-10894.
3. Khaleel, E.F. and Abdel-Aleem, G.A. 2019. Obestatin protects and reverses nonalcoholic fatty liver disease and its associated Insulin resistance in rats via inhibition of food intake, enhancing hepatic adiponectin signaling, and blocking ghrelin acylation. Arch. Physiol. Biochem. 125: 64-78.
4. Ogura, Y., et al. 2020. Ketogenic diet feeding improves aerobic metabolism property in extensor digitorum longus muscle of sedentary male rats. PLoS ONE 15: e0241382.
5. Wen, S., et al. 2021. Altered cardiac mitochondrial dynamics and biogenesis in rat after short-term cocaine administration. Sci. Rep. 11: 24129.
6. Yang, Y., et al. 2022. m^6A eraser FTO modulates autophagy by targeting SQSTM1/P62 in the prevention of canagliflozin against renal fibrosis. Front. Immunol. 13: 1094556.
7. Choi, S.W., et al. 2023. Adipokine gremlin-1 promotes hepatic steatosis via upregulation of ER stress by suppressing autophagy-mediated signaling. J. Cell. Physiol. 238: 966-975.
8. Yu, J., et al. 2024. Low GPR81 in ER^+ breast cancer cells drives tamoxifen resistance through inducing PPARα-mediated fatty acid oxidation. Life Sci. 350: 122763.

RESEARCH USE

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

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