

# PPAR $\gamma_2$ (A-1): sc-166731

## BACKGROUND

Peroxisome proliferator-activated receptors (PPARs) are members of the nuclear hormone receptor subfamily of transcription factors. PPARs form heterodimers with retinoid X receptors (RXRs). These heterodimers regulate transcription of genes involved in Insulin action, adipocyte differentiation, lipid metabolism and inflammation. PPAR $\gamma$  is implicated in numerous diseases including obesity, diabetes, atherosclerosis and cancer. PPAR $\gamma$  activators include prostanoids, fatty acids, thiazolidinediones and N-(2-benzoylphenyl) tyrosine analogues. A key component in adipocyte differentiation and fat-specific gene expression, PPAR $\gamma$  may modulate macrophage functions such as proinflammatory activities, and stimulate oxidized low-density lipoprotein (x-LDL) uptake. A Pro12Ala polymorphism of the PPAR $\gamma_2$  gene has been reported to reduce transactivation activity *in vitro*. This substitution may affect the immune response to ox-LDL and be associated with type 2 diabetes. In addition, the Pro12Ala variant of the PPAR $\gamma_2$  gene maybe correlated with abdominal obesity in type 2 diabetes.

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: PPARG (human) mapping to 3p25.2.

## SOURCE

PPAR $\gamma_2$  (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-30 at the N-terminus of PPAR $\gamma_2$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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-166731 X, 200  $\mu$ g/0.1 ml.

PPAR $\gamma_2$  (A-1) is available conjugated to agarose (sc-166731 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166731 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166731 PE), fluorescein (sc-166731 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166731 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166731 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166731 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166731 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166731 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166731 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166731 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## RESEARCH USE

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

## APPLICATIONS

PPAR $\gamma_2$  (A-1) is recommended for detection of PPAR $\gamma_2$  of 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), 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); non cross-reactive with PPAR $\gamma_1$ .

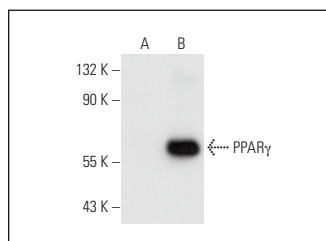
Suitable for use as control antibody for PPAR $\gamma_2$  siRNA (h): sc-29455, PPAR $\gamma_2$  shRNA Plasmid (h): sc-29455-SH and PPAR $\gamma_2$  shRNA (h) Lentiviral Particles: sc-29455-V.

PPAR $\gamma_2$  (A-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

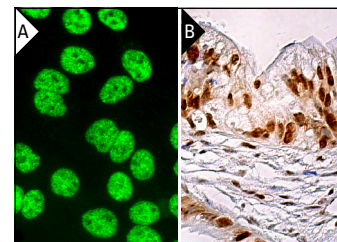
Molecular Weight of PPAR $\gamma_2$ : 60 kDa.

Positive Controls: U-937 cell lysate: sc-2239.

## DATA



PPAR $\gamma_2$  (A-1): sc-166731. Western blot analysis of PPAR $\gamma$  expression in non-transfected: sc-117752 (A) and mouse PPAR $\gamma$  transfected: sc-122729 (B) 293T whole cell lysates.



PPAR $\gamma_2$  (A-1): sc-166731. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Rodriguez, R., et al. 2013. Expression of FUS-CHOP fusion protein in immortalized/transformed human mesenchymal stem cells drives mixoid liposarcoma formation. *Stem Cells* 31: 2061-2072.
2. Li, F., et al. 2021. Upregulated PPARG2 facilitates interaction with demethylated AKAP12 gene promoter and suppresses proliferation in prostate cancer. *Cell Death Dis.* 12: 528.
3. Wang, Y., et al. 2022. AdipoRon exerts opposing effects on Insulin sensitivity via fibroblast growth factor FGF21-mediated time-dependent mechanisms. *J. Biol. Chem.* 298: 101641.
4. Wu, M.C., et al. 2023. Early committed polarization of intracellular tension in response to cell shape determines the osteogenic differentiation of mesenchymal stromal cells. *Acta Biomater.* 163: 287-301.

## STORAGE

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