

# PPAR $\gamma_2$ (G-18): sc-22020



The Power to Question

## 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. Lenhard, J. M. 2001. PPAR gamma/RXR as a molecular target for diabetes. *Receptor Channels* 4: 249-258.
2. Herrmann, S. M., et al. 2002. Peroxisome proliferator-activated receptor-gamma2 polymorphism Pro12Ala is associated with nephropathy in type 2 diabetes: The Berlin Diabetes Mellitus (BeDiaM) Study. *Diabetes* 8: 2653-2657.
3. Fu, M., et al. 2002. Association of Pro12Ala variant in peroxisome proliferator-activated receptor-gamma2 gene with type 2 diabetes mellitus. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi* 3: 234-238.
4. Niskanen, L., et al. 2003. Association of the PRO12ALA polymorphism of the PPAR-gamma2 gene with oxidized low-density lipoprotein and cardiometabolic autoantibodies in nondiabetic and type 2 diabetic subjects. *Metabolism* 2: 213-217.
5. LocusLink Report (LocusID: 5468). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: PPARG (human) mapping to 3p25; Pparg (mouse) mapping to 6 E3-F1.

## SOURCE

PPAR $\gamma_2$  (G-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PPAR $\gamma_2$  of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-22020 AC, 500  $\mu$ g/0.25 ml agarose in 1 ml.

Blocking peptide available for competition studies, sc-22020 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PPAR $\gamma_2$  (G-18) is recommended for detection of PPAR $\gamma_2$  of mouse, rat and to a lesser extent, human origin by Western Blotting (starting dilution 1:200, 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 $\gamma_2$  siRNA (h): sc-43529, PPAR $\gamma$  siRNA (m): sc-29456, PPAR $\gamma_2$  shRNA Plasmid (h): sc-43529-SH, PPAR $\gamma$  shRNA Plasmid (m): sc-29456-SH, PPAR $\gamma_2$  shRNA (h) Lentiviral Particles: sc-43529-V and PPAR $\gamma$  shRNA (m) Lentiviral Particles: sc-29456-V.

Molecular Weight of PPAR $\gamma_2$ : 67 kDa.

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

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.