

p-PPAR γ (Ser 112)-R: sc-28001-R

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 γ is implicated in numerous diseases including obesity, diabetes, atherosclerosis and cancer. PPAR γ activators include prostanoids, fatty acids, thiazolidinediones, and N-(2-benzoylphenyl) tyrosine analogues. A key component in adipocyte differentiation and fat-specific gene expression, PPAR γ may modulate macrophage functions such as proinflammatory activities, and stimulate oxidized low-density lipoprotein (ox-LDL) uptake. A PPAR γ_2 polymorphism has been reported to reduce trans-activation activity *in vitro*, which may affect the immune response to ox-LDL and be associated with type 2 diabetes.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM[™]. 1996. Johns Hopkins University, Baltimore, MD. MIM Number: 601487. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Lenhard, J.M. 2001. PPAR γ /RXR as a molecular target for diabetes. *Recept. Channels* 4: 249-258.
3. Herrmann, S.M., et al. 2002. Peroxisome proliferator-activated receptor- γ_2 polymorphism Pro12Ala is associated with nephropathy in type 2 diabetes: the Berlin diabetes mellitus (BeDiaM) study. *Diabetes* 8: 2653-2657.
4. Fu, M., et al. 2002. Association of Pro12Ala variant in peroxisome proliferator-activated receptor- γ_2 gene with type 2 diabetes mellitus. *Zhonghua Yi Xue Yi Chuan Xue Za Zhi* 3: 234-238.

CHROMOSOMAL LOCATION

Genetic locus: PPARG (human) mapping to 3p25.2; Pparg (mouse) mapping to 6 E3.

SOURCE

p-PPAR γ (Ser 112)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 112 phosphorylated PPAR γ of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-28001 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

p-PPAR γ (Ser 112)-R is recommended for detection of Ser 112 phosphorylated PPAR γ_2 , also designated Ser 84 phosphorylated PPAR γ_1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

p-PPAR γ (Ser 112)-R is also recommended for detection of correspondingly phosphorylated PPAR γ_2 in additional species, including equine and canine.

Suitable for use as control antibody for PPAR γ siRNA (h): sc-29455, PPAR γ siRNA (m2): sc-43530, PPAR γ shRNA Plasmid (h): sc-29455-SH, PPAR γ shRNA Plasmid (m2): sc-43530-SH, PPAR γ shRNA (h) Lentiviral Particles: sc-29455-V and PPAR γ shRNA (m2) Lentiviral Particles: sc-43530-V.

Molecular Weight of p-PPAR γ_1 : 54 kDa.

Molecular Weight of p-PPAR γ_2 : 57 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Churi, S.B., et al. 2008. Intrathecal rosiglitazone acts at peroxisome proliferator-activated receptor- γ to rapidly inhibit neuropathic pain in rats. *J. Pain* 9: 639-649.
2. Yuan, H., et al. 2012. Stem cell antigen-1 deficiency enhances the chemopreventive effect of peroxisome proliferator-activated receptor activation. *Cancer Prev. Res.* 5: 51-60.
3. Feng, A.W., et al. 2012. Berberine ameliorates COX-2 expression in rat small intestinal mucosa partially through PPAR γ pathway during acute endotoxemia. *Int. Immunopharmacol.* 12: 182-188.
4. Duque, G., et al. 2013. Pharmacological inhibition of PPAR γ increases osteoblastogenesis and bone mass in male C57BL/6 mice. *J. Bone Miner. Res.* 28: 639-648.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.