

## PPAR $\gamma$ (6-105): sc-4546

### 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 $\beta$  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., Tontonoz, P., Forman, B.M., Ellis, R., Chen, J., Evans, R.M., and Spiegelman, B.M. 1996. Differential activation of adipogenesis by multiple PPAR isoforms. *Genes Dev.* 10: 974-984.
2. Mansen, A., Guardiola-Diaz, H., Rafter, J., Branting, C., and Gustafsson, J.A. 1996. Expression of the peroxisome proliferator-activated receptor (PPAR) in the mouse colonic mucosa. *Biochem. Biophys. Res. Comm.* 222: 844-851.
3. Sterchele, P.F., Sun, H., Peterson, R.E., and Vanden Heuvel, J.P. 1996. Regulation of peroxisome proliferator-activated receptor- $\alpha$  mRNA in rat liver. *Arch. Biochem. Biophys.* 326: 281-289.
4. Lemberger, T., Saladin, R., Vazquez, M., Assimacopoulos, F., Staels, B., Desvergne, B., Wahli, W., and Auwerx, J. 1996. Expression of the peroxisome proliferator-activated receptor  $\alpha$  gene is stimulated by stress and follows  $\alpha$  diurnal rhythm. *J. Biol. Chem.* 271: 1764-1769.
5. Braissant, O., Fufelle, F., Scotto, C., Dauca, M., and Wahli, W. 1996. Differential expression of peroxisome proliferator-activated receptors (PPARs): tissue distribution of PPAR- $\alpha$ , - $\beta$ , and - $\gamma$  in the adult rat. *Endocrinology.* 137: 354-366.
6. Miyata, K.S., McCaw, S.E., Patel, H.V., Rachubinski, R.A., and Capone, J.P. 1996. The orphan nuclear hormone receptor LXR $\alpha$  interacts with the peroxisome proliferator-activated receptor and inhibits peroxisome proliferator signaling. *J. Biol. Chem.* 271: 9189-9192.
7. Hunter, J., Kassam, A., Winrow, C.J., Rachubinski, R.A., and Capone, J.P. 1996. Crosstalk between the thyroid hormone and peroxisome proliferator-activated receptors in regulating peroxisome proliferator-responsive genes. *Mol. Cell. Endocrinol.* 116: 213-221.

### SOURCE

PPAR $\gamma$  (6-105) is expressed in *E. coli* as a 38 kDa tagged fusion protein corresponding to amino acids 6-105 of PPAR $\gamma$  of human origin.

### RESEARCH USE

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

### PRODUCT

PPAR $\gamma$  (6-105) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 50  $\mu$ g purified protein in PBS containing 5 mM DTT and 50% glycerol.

Available as a Western blotting control; 10  $\mu$ g in 0.1 ml SDS-PAGE loading buffer, PPAR $\gamma$  (6-105): sc-4546 WB.

### APPLICATIONS

PPAR $\gamma$  (6-105) is suitable as a Western blotting control for sc-7196.

### STORAGE

Store PPAR $\gamma$  (6-105): sc-4546 and sc-4546 WB at -20° C. Stable for one year from the date of shipment.