PROTEIN ONE

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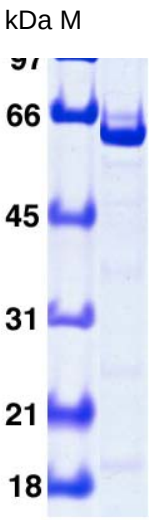
PPARγ (Peroxisome proliferator-activated receptor, gamma isotype)

Catalog Reference	Vial Size		Lot Number	Molecular Mass	Accession
P1050-01	10,000 units (ng)	☐	081905	60 kDa	NM_138712
P1050-02	25,000 units (ng)	☐			

Storage conditions:
Store at -80 °C

Description:
There is evidence that a group of closely related nuclear receptors, called peroxisome proliferator-activated receptors (PPARs), may be involved in chronic diseases such as diabetes, obesity, artherosclerosis and cancer. The PPARs were first cloned as the nuclear receptors that mediate the effects of synthetic compounds called peroxisome proliferators on gene transcription. It soon became clear that eicosanoids and fatty acids can also regulate gene transcription through PPARs. They bind a specific element in the promoter region of target genes only as a heterodimer with the receptor for 9- cis retinoic acid, RXR (retinoid X receptor). Binding of the ligand of either receptor can activate the complex, but binding of both ligands simultaneously is more potent (1). Three PPAR isotypes have been identified:α, β (also called NUC1) and γ. PPARα is expressed most in brown adipose tissue and liver, then kidney, heart and skeletal muscle. PPARβ is found in many tissues but the highest expression is in the gut, kidney and heart. PPARγ is mainly expressed in adipose tissue, and to a lesser extent in colon, the immune system and the retina (2). PPARγ influences the storage of fatty acids in the adipose tissue. With the C/EBP transcription factors, PPARγ is part of the adipocyte differentiation program that induces the maturation of pre-adipocytes into fat cells. Most of the PPARγ target genes in adipose tissue are directly implicated in lipogenic pathways, including lipoprotein lipase (LPL), adipocyte fatty acid binding protein (A-FABP or AP2), acyl-CoA synthase and fatty acid transport protein (FATP) (3). In addition, PPARγ is a direct target gene of the transcription factor sterol response element binding protein 1 (SREBP1) emphasizing the cooperative and additive functions between these two types of receptor (4).



Source:
Recombinant His tagged PPAR is isolated from an E. coli strain that carries the coding sequence of the human PPARγ under the control of a T7 promoter. **For Research Use Only.**

Applications:
PPARγ has been applied in DNA and protein-protein interaction assays.

Quality Control:
Purified protein is greater than 95% homogeneous based on SDS-PAGE analysis.

Unit Definition:
1 unit equals 1 nanogram of purified protein. 20 units are sufficient for a gel-mobility shift assay and 100 units are sufficient for a protein-protein interaction assay.

Concentration:
0.5 mg/ml (in 1x dilution buffer A)

Reagents Supplied:
1x dilution buffer A: 20 mM Tris-Cl (pH 8.0), 20% Glycerol, 100 mM KCl, 1 mM DTT and 0.2 mM EDTA

References:
1. Desvergene et al., (1999) Endocr. Rev. 20, 649-688
2. Kersten (2000) Nature 405, 421-424
3. Rosen et al., (1999) Mol. Cell 4, 611-617
4. Fajas et al., (1999) Mol. Cell. Biol. 19, 5495-550