Data sheet

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Jena Bioscience

PPAR-β-LBD (residues 165-441)

Peroxisome Proliferator Activated Receptor, beta isoform, Ligand Binding Domain
human, recombinant, *E. coli*

Cat. No.	Amount
PR-846	10 μg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -80°C

Avoid freeze / thaw cycles

Form
Liquid. Supplied in 20 mM Tris-HCl pH 8.0, 20% glycerol, 100 mM KCl, 1 mM DTT and 0.2 mM EDTA.

Application
PPARβ can be applied in DNA and protein-protein interactions assays.

Molecular Weight
30 kDa

Purity
> 95% by SDS-PAGE

Description
Recombinant His tagged PPARβ-LBD is isolated from an E. coli strain that carries the coding sequence of the human PPARβ under the control of a T7 promoter.
There is evidence that a group of closely related nuclear receptors, called peroxisome proliferatoractivated 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. 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.
PPARγ is mainly expressed in adipose tissue, and to a lesser extent in colon, the immune system and the retina. PPARβ is found in many tissues but the highest expression is in the gut, kidney and heart. PPARβ has received little attention, probably because of the lack of a connection with important clinical manifestations. However, recently PPARβ has been linked to colon cancer, among other functions. PPAR regulates the expression of acyl-CoA synthetase 2 in the brain, linking PPARβ to basic lipid metabolism. Moreover, it probably participates in embryo implantation and decidualization.

Selected References:

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Desvergne *et al.* (1999) Peroxisome proliferator-activated receptors: nuclear control of metabolism. *Endocr. Rev.* **20**:649.
He *et al.* (1999) PPARdelta is an APC-regulated target of nonsteroidal anti-inflammatory drugs. *Cell* **99**:335.
Basu-Modak *et al.* (1999) Peroxisome proliferator-activated receptor beta regulates acyl-CoA synthetase 2 in reaggregated rat brain cell cultures. *J. Biol. Chem.* **274**:35881.
Lim *et al.* (1999) Cyclo-oxygenase-2-derived prostacyclin mediates embryo implantation in the mouse via PPARdelta. *Genes Dev.* **13**:1561.