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antibody and ELISA experts

BOSTER BIOLOGICAL TECHNOLOGY
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Anti-PPAR alpha Antibody

Catalog Number: A00600

About PPARA

Since their discovery in the early 1990's, the peroxisome proliferator activated receptors (PPARs) have attracted significant attention. This is primarily because PPARs serve as receptors for two very important classes of drugs: the hypolipidemic fibrates and the insulin sensitizing thiazolidinediones. Peroxisome proliferators are non-genotoxic carcinogens that are purported to exert their effect on cells through their interaction with members of the nuclear hormone receptor family termed PPARs. Nuclear hormone receptors are ligand-dependent intracellular proteins that stimulate transcription of specific genes by binding to specific DNA sequences following activation by the appropriate ligand. Upon binding fatty acids or hypolipidemic drugs, PPARs form heterodimers with retinoid X receptors (RXRs) and these heterodimers regulate the expression of target genes. There are 3 known subtypes of PPARs: PPAR-alpha, PPAR-delta and PPAR-gamma. Mostly target genes are involved in the catabolism of fatty acids. Conversely, PPAR-gamma is activated by peroxisome proliferators such as prostaglandins, leukotrienes and Anti diabetic thiazolidinediones and affects the expression of genes involved in the storage of the fatty acids. PPAR-gamma may also be involved in adipocyte differentiation. It has also been shown that PPARs can induce transcription of acyl coenzyme A oxidase and cytochrome P450 through interaction with specific response elements. Anti-Ppar Antibody is useful for research interested in transcription and metabolic pathways.

Overview

Product Name	Anti-PPAR alpha Antibody
Reactive Species	Human, Mouse
Description	Boster Bio Anti-PPAR alpha Antibody (Catalog # A00600). Tested in ELISA, IF, IHC, WB applications. This antibody reacts with Human, Mouse.
Application	ELISA, Flow Cytometry, IF, IHC, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	Store vial at -20°C prior to opening. Aliquot contents and freeze at -20°C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4°C as an undiluted liquid. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening. (Ship on dry ice.)
Host	Rabbit
Uniprot ID	P23204

Technical Details

Immunogen	PPAR alpha Antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a N-Terminal region near amino acids 1-25 of mouse PPAR alpha.

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Predicted Reactive Species	Boar, Bovine, Canine, Golden Hamster
Cross Reactivity	No cross reactivity with other proteins.
Isotype	IgG
Form	Liquid (sterile filtered)
Concentration	1.0 mg/mL by UV absorbance at 280 nm
Purification	Anti-PPAR alpha Antibody is directed against mouse PPAR alpha protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest reactivity with this protein from mouse, rat, bovine, dog, golden hamster and boar sources based on 100% homology for the immunogen sequence. Cross-reactivity with PPAR alpha protein from human, chimpanzee and rhesus monkey may also occur as this sequence shows 88% homology (16/18 identities) with the protein from these sources. Cross-reactivity with PPAR alpha homologues from other sources has not been determined. No reactivity is expected against other subtypes of PPAR.
Suggested Dilutions	ELISA: 1:75,000 - 1:125,000 Flow Cytometry: User optimized IHC: 1:100-1:300 IF Microscopy: 1-5μg/mL WB: 1:500 - 1:2,000 Anti-PPAR alpha Antibody has been tested in ELISA, Western Blot, Immunohistochemistry, and Immunofluorescence. Expect a single band approximately 52 kDa in size corresponding to PPAR alpha by western blot in the appropriate tissue or cell lysate. A 1:200 dilution is suggested for Immunohistochemistry. Specific conditions for reactivity should be optimized by the end user.

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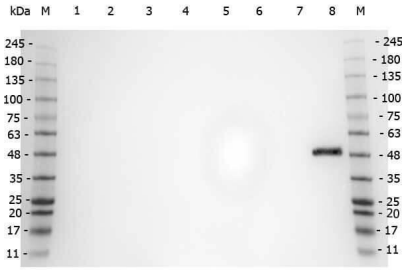
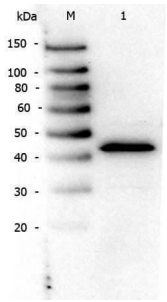
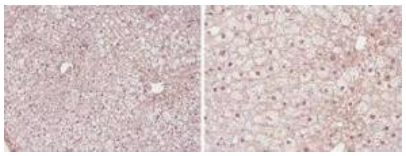
Anti-PPAR alpha Antibody (A00600) Images



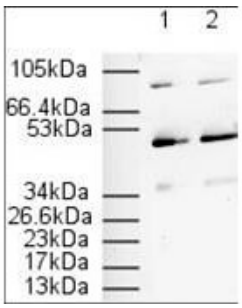
Western Blot of Rabbit anti-PPAR Alpha (N-terminal specific) antibody. Marker: Opal Pre-stained ladder . Lane 1: HEK293 lysate . Lane 2: HeLa Lysate . Lane 3: MCF-7 Lysate . Lane 4: Jurkat Lysate . Lane 5: A431 Lysate . Lane 6: LNCaP Lysate . Lane 7: A-172 Lysate . Lane 8: NIH/3T3 Lysate . Load: 35 µg per lane. Primary antibody: PPAR Alpha (N-terminal specific) antibody at 1ug/mL overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody at 1:30,000 for 60 min at RT. Blocking Buffer: 1% Casein-TTBS for 30 min at RT. Predicted/Observed size: 52 kDa for PPAR Alpha.



Western Blot of Rabbit anti-PPAR Alpha (N-terminal Specific) antibody. Lane M: Prestained Molecular Weight Markers. Lane 1: NIH/3T3 . Load: 10 µg per lane. Primary antibody: PPAR Alpha (N-terminal specific) antibody at 1:1,000 for overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody at 1:40,000 for 30 min at RT. Block: Blocking Buffer for Fluorescent Western Blotting at RT for 30 min. Predicted/Observed size: ~50 kDa for PPAR Alpha.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) showing Boster's PPAR alpha antibody staining of PPAR alpha protein in mouse liver tissue section (Formalin/PFA-fixed paraffin-embedded sections). Tissue underwent formaldehyde fixation before enzymatic antigen retrieval with 0.05% protease in PBS for 5 minutes. Sample was then blocked with 5% serum for 20 minutes at 20°C. The primary antibody was diluted 1:50 and incubated with sample in Tris plus 5% normal goat serum for 1 hour at 20°C. A Biotin conjugated goat polyclonal to rabbit IgG was used at dilution at 1:500 as secondary antibody. Images show nuclear staining in hepatocytes (perfusion-fixed mouse, 10 and 40x microscope magnification).



Affinity Purified Anti-PPAR alpha (N -terminal specific) (Rabbit) is shown to detect a 52 kDa band corresponding to PPAR alpha present in a 3T3 whole cell lysate. Approximately 20 µg of lysate was loaded per lane for SDS-PAGE. Detection occurred after using a 1:500 (lane 1) or 1:1000 (lane 2) dilution of antibody followed by 1:2000 dilution of HRP Goat-a-Rabbit IgG for visualization.

Immunohistochemistry using Boster's anti-PPAR antibody, showing staining of PPAR alpha in rat brain sections, highlighting cytoplasmic staining in ependymal cells and neurons in frontal cortex. Bottom image shows subventricular zone (svz) of lateral ventrical (exit point of

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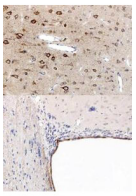
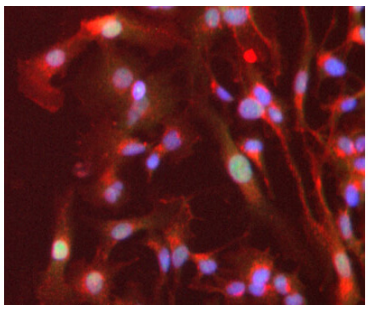
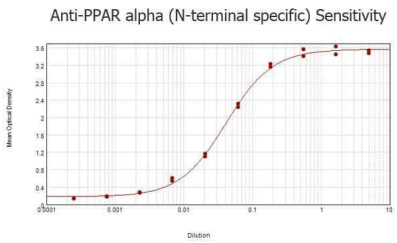


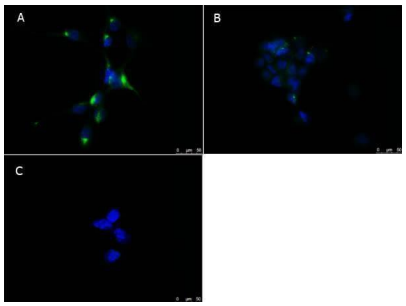
progenitor olfactory neurones); top image shows frontal cortex in the same section. Cytoplasmic staining is also observed in the corpus callosum (bottom image) and in dendritic fields of the cortex. Formalin/PFA-fixed paraffin-embedded sections of rat brain tissue were incubated with the primary antibody at 1:200 for 1 hour. Antigen retrieval was performed by heat induction in citrate buffer pH 6.0.



Immunofluorescence Microscopy of Rabbit anti-PPAR alpha antibody. Tissue: HepG2 cells. Fixation: 4% formaldehyde fixed (10 min). Antigen retrieval: not required. Primary antibody: PPAR alpha antibody at 1 µg/mL overnight at 4°C. Secondary antibody: Alexa Fluor® 488 goat anti-rabbit IgG (H+L) (green) used at a 1:1000, Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1:200 dilution for 1h for 45 min at RT. Localization: PPAR alpha is nuclear and occasionally cytoplasmic. Staining: PPAR alpha as green fluorescent signal with DAPI (blue) nuclear counterstain.



ELISA results of purified Rabbit anti-PPAR Alpha (N-terminal specific) Antibody tested against BSA-conjugated peptide of immunizing peptide. Each well was coated in duplicate with 0.1µg of conjugate. The starting dilution of antibody was 5ug/ml and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. Assay performed using 3% fish gel, Goat anti-Rabbit IgG Antibody Peroxidase Conjugated (Min X Bv Ch Gt GP Ham Hs Hu Ms Rt & Sh Serum Proteins) and TMB ELISA Peroxidase Substrate .



Immunofluorescence microscopy of Rabbit Anti-PPAR alpha (N-terminal specific) antibody using (A) Mouse NIH/3T3 or (B) Human HEK293 cells fixed with MeOH. (C) Secondary antibody only with NIH/3T3 cells. Anti-PPAR alpha antibody was used at 10 µg/mL, 1h at RT°. Secondary antibody: Anti-RABBIT IgG DyLight™ 488 Conjugated Preadsorbed at 5 ug/ml for 1 h at RT. Staining: PPAR as green fluorescent signal with DAPI (blue) nuclear counterstain.

4 Publications Citing This Product

1. PubMed ID: 10.1016/j.lfs.2020.118147, MicroRNA-708 prevents ethanol-induced hepatic lipid accumulation and inflammatory reaction via direct targeting ZEB1

2. PubMed ID: 10.1002/jsfa.10133, Structural and antioxidant analysis of Tartary buckwheat (Fagopyrum tartaricum Gaertn.) 13S globulin

3. PubMed ID: 32732169, Li J,Liu FW,Wu DB,Chen EQ,Chen XJ,Chen SC,Liu C,Zhao LS,Tang H,Zhou TY.TRAIL inhibits HBV replication and expression by down-regulating liver-enriched transcription factors.Arab J Gastroenterol.2020 Sep;21(3): 169-173.doi:10.1016/j.ajg.2020.05.002.Epub 20

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