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### Certificate of Analysis

**Product:** Affinity Purified Anti-PPAR alpha (N-terminal specific) (Rabbit)

**Code:** 600-401-421

**Lot #:** 17568

**Size:** 100 µg

**Physical State:** Liquid (sterile filtered)

**Antibody Concentration:** 1.7 mg/ml (by UV absorbance at 280 nm)

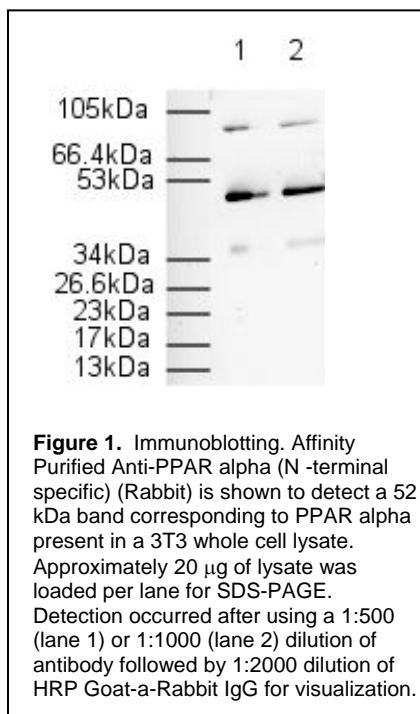
**Buffer:** 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

**Stabilizer:** None

**Preservative:** 0.01% (w/v) Sodium Azide

**Storage Conditions:** Store vial at -20° C prior to opening. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Expiration date is one (1) year from date of opening.

**Background Information:** 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.



**Figure 1.** Immunoblotting. 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.

**Application Note(s):** This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a single band approximately 52 kDa in size corresponding to PPAR alpha by western blot in the appropriate tissue or cell lysate.

<b>Recommended Dilutions:</b>	<b>ELISA</b>	1:8,000 - 1:32,000
	<b>WESTERN BLOT</b>	1:500 - 1:2,000
	<b>IMMUNOHISTOCHEMISTRY</b>	User Optimized
	<b>OTHER APPLICATIONS</b>	User Optimized

**Purity and Specificity:** This affinity purified 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.

**Relevant Link(s):** Swiss Prot: [P23204](#) NCBI Link [NP\\_035274](#)

**Protein Sequence:** Mouse PPAR alpha, 468 aa, predicted MW 52.3 kDa

1	<b>mvdtespicp</b>	<b>Ispleaddle</b>	splseeflqe	mgniqeisqs	igeessgsfg	fadyqylgsc
61	pgsegsvitd	tlspasspss	vscpvipast	despgsalni	ecricgdkas	gyhygvhace
121	gckgffrti	rlklvydkcd	rsckiqlknr	nkcqycrfhk	clsvgmshna	irfgmrprse
181	kaklkaeilt	cehdlkset	adlkslgkri	heaylknfnm	nkvkavila	gktsnppfv
241	ihdmetlcma	ektlvakmva	ngvedkeae	rffhccqcms	vetvteltes	akaipgfanl
301	dlnqvtllk	ygveaiftm	lsslmnkdgm	liaynggfit	reflknlrkp	fdimepkfd
361	famkfnalel	ddsdislfva	aiiccgdrpg	llnigyiekl	qegivhvlkl	hlqsnhpddt
421	flfpklqkm	vdlrqlvteh	aqlqvikk	esdaalhpil	qeiyrmy	

**Protein Sequence:** Human PPAR alpha, 468 aa, predicted MW 52.2 kDa ([NP\\_001001930](#))

1	<b>mvdtespicp</b>	<b>Ispleagdle</b>	splseeflqe	mgniqeisqs	igedssgsfg	fteyqylgsc
61	pgsdgsvitd	tlspasspss	vtypvpgsv	despgsalni	ecricgdkas	gyhygvhace
121	gckgffrti	rlklvydkcd	rsckiqlknr	nkcqycrfhk	clsvgmshna	irfgmrprse
181	kaklkaeilt	cehdiedset	adlkslakri	yeaylknfnm	nkvkavils	gkasnppfv
241	ihdmetlcma	ektlvakiva	ngiqnkeae	rifhccqcts	vetvteltes	akaipgfanl
301	dlnqvtllk	ygveaifam	lssvmnkdgm	lvaynggfit	reflkslrkp	fdimepkfd
361	famkfnalel	ddsdislfva	aiiccgdrpg	llnvghiekm	qegivhvrl	hlqsnhpddi
421	flfpklqkm	adrlqlvteh	aqlvqiikk	esdaalhpil	qeiyrmy	

**Immunogen:** This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids 1 to 18 of mouse PPAR alpha.

#### General Reference(s):

Mukherjee, R. et al. (1994) Human and rat peroxisome proliferator activated receptors (PPARs) demonstrate similar tissue distribution but different responsiveness to PPAR activators. *J. Steroid Biochem. Mol. Biol.* **51** (3-4), 157-166.

Plutzky, J. (2003) PPARs as therapeutic targets: reverse cardiology? *Science* **302**(5644):406-7.

Lee, C.H. et al. (2003) Transcriptional repression of atherogenic inflammation: modulation by PPARdelta. *Science* **302** (5644):453-7.

Chinetti, G. et al. (2000) Peroxisome proliferator-activated receptors (PPARs): nuclear receptors at the crossroads between lipid metabolism and inflammation. *Inflamm Res.* **49**(10):497-505.

Lazar MA. (2001) Progress in cardiovascular biology: PPAR for the course. *Nat Med.* **1**:23-4.

#### Related Products:

<a href="#">#600-401-418</a>	Affinity Purified Anti-PPAR gamma 2 (RABBIT)
<a href="#">#600-401-419</a>	Affinity Purified Anti-PPAR gamma 1 and 2 (RABBIT)
<a href="#">#600-401-420</a>	Affinity Purified Anti-PPAR delta (RABBIT)
<a href="#">#600-401-421</a>	Affinity Purified Anti-PPAR alpha (RABBIT)
<a href="#">#611-703-127</a>	Peroxidase Conjugated Affinity Purified Anti-RABBIT IgG (H&L) (DONKEY) MX10
<a href="#">#611-132-122</a>	IRDye800 Conjugated Affinity Purified Anti-RABBIT IgG (H&L) (GOAT) MX10
<a href="#">#B501-0500</a>	500 g BLOTTO
<a href="#">#BSA-30</a>	500 ml 30% BOVINE SERUM ALBUMIN SOL'N in 0.85% sodium chloride (no preservative or stabilizer)
<a href="#">#B304</a>	10 ml NORMAL GOAT SERUM (NGS)
<a href="#">#KIA-003</a>	<b>MaxTag™</b> Anti-RABBIT IgG Kit for Immunoblotting
<a href="#">#MB-070</a>	Blocking Buffer for Fluorescent Western Blotting

**USDA Certification:** All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation.

**Note:** This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.