Targeting PPARs:

A guide to function and structure

While PPARs display a high degree of homology at the protein level, each subtype exhibits distinct, noninterchangeable roles in energy metabolism that range from energy burning to energy storage. Learn more about their functions as fatty acid sensors and regulators of energy homeostasis at **www.caymanchem.com/PPARs**.

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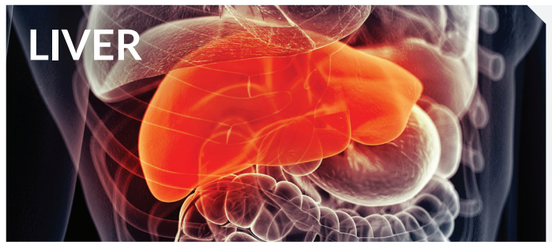
PPARδ
- ↑ Fatty acid oxidation
- ↑ Oxidative muscle fibers
- ↑ Obesity resistance
- ↑ Insulin sensitivity
- ↑ Energy uncoupling

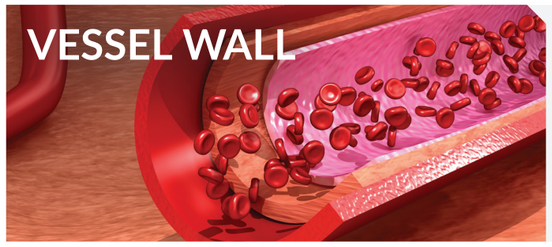
PPARα
- ↑ Fatty acid oxidation

PPARγ
- ↑ Insulin-mediated glucose uptake



PPARα
- ↑ Fatty acid oxidation
- ↑ Ketogenesis
- ↓ Plasma triglycerides
- ↑ Plasma HDL

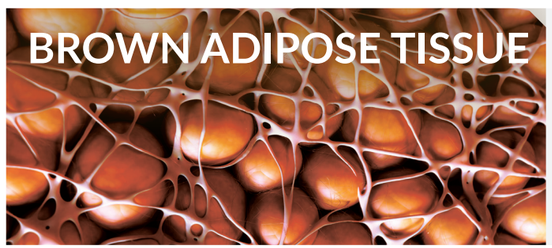
PPARγ
- ↑ Fatty acid storage
- ↑ Lipogenesis



PPARα & PPARγ
- ↓ Inflammation
- ↑ Reverse cholesterol transport

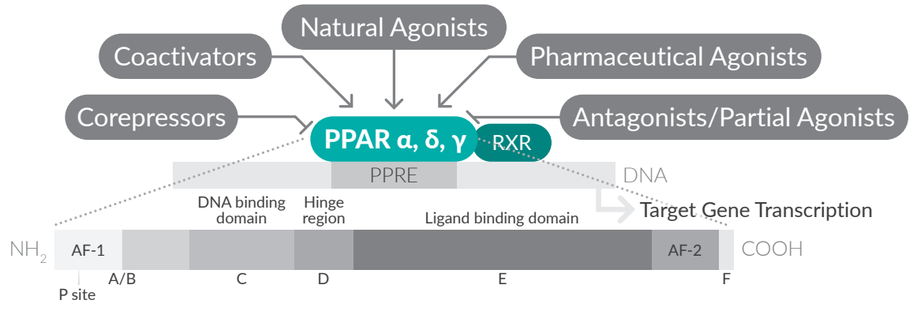
PPARδ
- ↓ Inflammation

PPARγ
- ↑ Adipogenesis
- Regulates adipokine production
- ↑ Lipid repartitioning to fat
- ↑ Insulin sensitivity
- ↑ Lipogenesis



PPARδ
- ↑ Fatty acid oxidation
- ↑ Energy uncoupling

PPARγ
- ↑ Adipogenesis



	PPARα*	PPARδ	PPARγ*
	1 99 173 239 466 468 A/B C D E F *Represents isoform 1, the canonical sequence in UniProt	1 71 145 211 439 441 A/B C D E F	1 136 210 238 503 505 A/B C D E F *Represents isoform 2, the canonical sequence in UniProt
Synonyms	NR1C1	FAAR NR1C2 NUC1 PPARβ	NR1C3
Coactivators	CITED2 CREBBP EP300 MED1 (PBP/DRIP205/TRAP220) NCOA1 (RIP160/SRC-1) NCOA2 (SRC-2) NCOA3 (SRC-3) PGC-1α PGC-1β PRIC295	EP300 NCOA1 (RIP160/SRC-1) NCOA2 (SRC-2) NCOA3 (SRC-3) PGC-1α	CREBBP EP300 FAM120B MED1 (PBP/DRIP205/TRAP220) NCOA1 (RIP160/SRC-1) NCOA2 (SRC-2) NCOA3 (SRC-3) NCOA4 NCOA6 NCOA7 PGC-1α PGC-1β PGC-2
Corepressors	NCOR1 RIP140 (NRIP1) SMRT (NCOR2)	NCOR1 NR0B2 RIP140 (NRIP1) SMRT (NCOR2) SPEN	GPS2 NCOR1 NR0B1 NR0B2 PER2 RIP140 (NRIP1) SMRT (NCOR2)
Selective Agonists	AM3102 Clofibrate (+)-Etomoxir (sodium salt) Fenofibrate GW 590735 GW 7647 GW 9578 8(S)-HETE Leukotriene B_4 N-Octadecyl-N'-propyl-sulfamide Oleoyl Ethanolamide	CAY10592 GW 0742 GW 501516	Amorfrutin A Amorfrutin B Azelaoyl PAF CAY10599 CDDO Ciglitazone GW 1929 Pioglitazone 15-deoxy-$\Delta^{12,14}$-Prostaglandin J_2 Rosiglitazone Troglitazone
Non-Selective and Dual Agonists	Bavachinin Bezafibrate CAY10514 CAY10573 Elafibranor (±)9-HODE (±)13-HODE Lanifibranor MHY908 Muraglitazar Tesaglitazar Wy 14643	Bavachinin Bezafibrate CAY10573 Elafibranor Lanifibranor	Bavachinin Bezafibrate CAY10514 CAY10573 (±)9-HODE (±)13-HODE Lanifibranor MHY908 Muraglitazar Tesaglitazar Wy 14643
Partial Agonists and Antagonists	GW 6471	GSK3787 Sulindac	BADGE Diclofenac FMOC-L-Leucine G3335 GW 9662 MCC-555 SR 202 T0070907