

Product data sheet



MedKoo Cat#: 522547 Name: GW0742 CAS: 317318-84-6 Chemical Formula: C ₂₁ H ₁₇ F ₄ NO ₃ S ₂ Exact Mass: 471.0586 Molecular Weight: 471.4846	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

GW0742, also known as GW610742 and GW0742X is a PPAR δ / β agonist. GW0742 Induces Early Neuronal Maturation of Cortical Post-Mitotic Neurons. GW0742 prevents hypertension, vascular inflammatory and oxidative status, and endothelial dysfunction in diet-induced obesity. GW0742 has direct protective effects on right heart hypertrophy. GW0742 may enhance lipid metabolism in heart both in vivo and in vitro.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	30.0	63.63
DMF:PBS (pH 7.2) (1:10)	0.1	0.21
DMSO	50.38	106.84
Ethanol	26.08	55.31

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.12 mL	10.60 mL	21.21 mL
5 mM	0.42 mL	2.12 mL	4.24 mL
10 mM	0.21 mL	1.06 mL	2.12 mL
50 mM	0.04 mL	0.21 mL	0.42 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Gamdzyk M, Doycheva DM, Kang R, Tang H, Travis ZD, Tang J, Zhang JH. GW0742 activates miR-17-5p and inhibits TXNIP/NLRP3-mediated inflammation after hypoxic-ischaemic injury in rats and in PC12 cells. *J Cell Mol Med.* 2020 Nov;24(21):12318-12330. doi: 10.1111/jcmm.15698. Epub 2020 Oct 9. PMID: 33034416; PMCID: PMC7686982.

In vivo study

1. Konttinen H, Gureviciene I, Oksanen M, Grubman A, Loppi S, Huuskonen MT, Korhonen P, Lampinen R, Keuters M, Belaya I, Tanila H, Kanninen KM, Goldsteins G, Landreth G, Koistinaho J, Malm T. PPAR β / δ -agonist GW0742 ameliorates dysfunction in fatty acid oxidation in PSEN1 Δ E9 astrocytes. *Glia.* 2019 Jan;67(1):146-159. doi: 10.1002/glia.23534. Epub 2018 Nov 19. PMID: 30453390; PMCID: PMC7526864.

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2. Ozawa C, Horiguchi M, Akita T, Oiso Y, Abe K, Motomura T, Yamashita C. Pulmonary Administration of GW0742, a High-Affinity Peroxisome Proliferator-Activated Receptor Agonist, Repairs Collapsed Alveoli in an Elastase-Induced Mouse Model of Emphysema. *Biol Pharm Bull.* 2016;39(5):778-85. doi: 10.1248/bpb.b15-00909. PMID: 27150147.

7. Bioactivity

Biological target:

GW0742 is a potent PPAR β and PPAR δ agonist, with an IC₅₀ of 1 nM for human PPAR δ in binding assay, and EC₅₀s of 1 nM, 1.1 μ M and 2 μ M for human PPAR δ , PPAR α , and PPAR γ , respectively.

In vitro activity

Treatment with 10 μ mol/L of GW0742 significantly reduced expression of TXNIP (Figure 6C,D, $P < 0.01$), which was accompanied by decreased expression of secreted pro-inflammatory cytokines IL-1 β and TNF- α (Figure 6C,D, $P < 0.05$), suggesting that GW0742 can reduce inflammation in PC12 cells subjected to OGD.

Reference: *J Cell Mol Med.* 2020 Nov;24(21):12318-12330. <https://pubmed.ncbi.nlm.nih.gov/33034416/>

In vivo activity

Since neural stem cells have been shown to use FAO to support neurogenic activity, and neurogenesis is linked with amelioration of cognitive deficits, this study assessed whether GW0742 treatment enhanced the production of newborn neurons as detected by DCX staining in the hippocampi of the GW0742 treated APP/PS1 mice. Although the number of DCX positive cells was very low in the 12-month-old APP/PS1 mice, it was slightly, yet significantly, increased in the treated mice compared to their vehicle treated controls ($t(15) = 2.3$, $p = .04$, unpaired t test, Figure 4a,b).

Reference: *Glia.* 2019 Jan;67(1):146-159. <https://pubmed.ncbi.nlm.nih.gov/30453390/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.