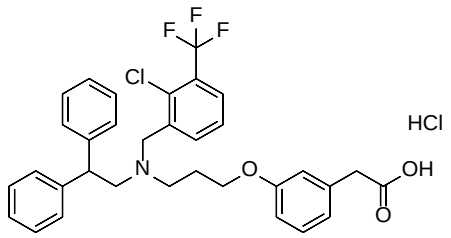
Product data sheet

MedKoo Cat#: 522685 Name: GW3965 HCl CAS#: 405911-17-3 (HCl) Chemical Formula: $C_{33}H_{32}Cl_2F_3NO_3$ Molecular Weight: 618.52	
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:
GW-3965 is a liver X receptor agonist. GW3965 represses the production of pro-inflammatory cytokines by murine mast cells. GW3965 improves recovery from mild repetitive traumatic brain injury in mice partly through apolipoprotein E. GW3965 reduces tissue factor production and inflammatory responses in human islets in vitro. GW3965 dose-dependently regulates lps-mediated liver injury and modulates posttranscriptional TNF-alpha production and p38 mitogen-activated protein kinase activation in liver macrophages.

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	20.0	32.34
DMSO	49.46	79.97
DMSO:PBS (pH 7.2) (1:4)	0.20	0.32
Ethanol	7.19	11.62

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.62 mL	8.08 mL	16.17 mL
5 mM	0.32 mL	1.62 mL	3.23 mL
10 mM	0.16 mL	0.81 mL	1.62 mL
50 mM	0.03 mL	0.16 mL	0.32 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. Sheng XX, Sun YJ, Zhan Y, Qu YR, Wang HX, Luo M, Liao Y, Qiu XS, Ding C, Fan HJ, Mao X. The LXR ligand GW3965 inhibits Newcastle disease virus infection by affecting cholesterol homeostasis. Arch Virol. 2016 Sep;161(9):2491-501. doi: 10.1007/s00705-016-2950-4. Epub 2016 Jun 29. PMID: 27357231; PMCID: PMC7087268.

In vivo study

1. Han S, Bal NB, Sadi G, Usanmaz SE, Uludag MO, Demirel-Yilmaz E. The effects of LXR agonist GW3965 on vascular reactivity and inflammation in hypertensive rat aorta. Life Sci. 2018 Nov 15;213:287-293. doi: 10.1016/j.lfs.2018.10.042. Epub 2018 Oct 23. PMID: 30366037.
2. Cui X, Chopp M, Zacharek A, Cui Y, Roberts C, Chen J. The neurorestorative benefit of GW3965 treatment of stroke in mice. Stroke. 2013 Jan;44(1):153-61. doi: 10.1161/STROKEAHA.112.677682. Epub 2012 Nov 29. PMID: 23204055; PMCID: PMC3529962.

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7. Bioactivity

Biological target: GW3965 hydrochloride is a liver X receptor (LXR) agonist with EC50s of 190 nM and 30 nM for hLXRα and hLXRβ, respectively.

In vitro activity

NF-κB, a multi-subunit nuclear transcription factor, regulates the transcription of various cytokines and host immune responses. In quiescent cells, NF-κB is bound to its inhibitor IκB in the cytoplasm. Once stimulated, IκBα is phosphorylated and degraded. NF-κB is released and translocated into the nucleolus to regulate gene transcription. To explore the effect of GW3965 on the NF-κB signaling pathway in virus infection, the protein levels of IκBα, p65, phosphor-IκBα and phosphor-p65 were determined by Western blot. The results indicated that GW3965 suppressed the degradation of IκBα and the activation of NF-κB in a dose-dependent manner (Fig. 3).

Reference: Arch Virol. 2016 Sep;161(9):2491-501. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7087268/

In vivo activity

GW3965 treatment reduced systolic blood pressures in hypertensive rats. GW3965 treatment enhanced plasma nitrite levels in normotensive rats. KCl and phenylephrine (Phe)-induced vasocontractions were reduced in hypertensive groups and increased with GW3965 treatment. Expression of inositoltrisphosphate receptor1 (IP3R1) was increased by GW3965 in normotensive animals. The nuclear factor kappaB (NF-κB) and tumor necrosis factor alpha (TNF-α) expressions were increased in hypertensive rats and reduced by GW3965 treatment. These results indicate that the LXR agonist, GW3965, exhibited a beneficial effect on increased blood pressure and improved hypertension-induced impairment in contractile activity of vessel and inflammatory markers in vascular tissue.

Reference: Life Sci. 2018 Nov 15;213:287-293.
https://www.sciencedirect.com/science/article/abs/pii/S0024320518306672?via%3Dihub

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.