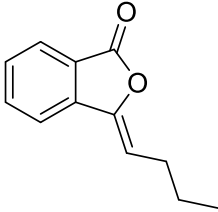


Product data sheet



MedKoo Cat#: 561411 Name: Butylidenephthalide CAS#: 551-08-6 Chemical Formula: C ₁₂ H ₁₂ O ₂ Exact Mass: 188.0837 Molecular Weight: 188.23		
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:

Butylidenephthalide is an inhibitor of platelet-derived growth factor (PDGF). Butylidenephthalide activity leads to the reduction of liver fibrosis, increased Nur77 (NR4A1) expression, and downregulation of EMT-related genes such as Snail (Snail/SNAI1) and Slug (Slug/SNAI2).

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
DMSO	250.0	1328.16

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	5.31 mL	26.56 mL	53.13 mL
5 mM	1.06 mL	5.31 mL	10.63 mL
10 mM	0.53 mL	2.66 mL	5.31 mL
50 mM	0.11 mL	0.53 mL	1.06 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. Lee JH, Lin SY, Liu JW, Lin SZ, Harn HJ, Chiou TW. n-Butylidenephthalide Modulates Autophagy to Ameliorate Neuropathological Progress of Spinocerebellar Ataxia Type 3 through mTOR Pathway. *Int J Mol Sci.* 2021 Jun 13;22(12):6339. doi: 10.3390/ijms22126339. PMID: 34199295; PMCID: PMC8231882.
2. Lin YL, Huang XF, Chang KF, Liao KW, Tsai NM. Encapsulated n-Butylidenephthalide Efficiently Crosses the Blood-Brain Barrier and Suppresses Growth of Glioblastoma. *Int J Nanomedicine.* 2020 Jan 31;15:749-760. doi: 10.2147/IJN.S235815. PMID: 32099363; PMCID: PMC6999785.

In vivo study

1. Chang YH, Wu KC, Ding DC. The natural compound n-butylidenephthalide kills high-grade serous ovarian cancer stem cells by activating intrinsic apoptosis signaling pathways. *J Cancer.* 2021 Mar 30;12(11):3126-3135. doi: 10.7150/jca.51650. PMID: 33976722; PMCID: PMC8100814.
2. Yang HH, Xu YX, Chen JY, Harn HJ, Chiou TW. N-Butylidenephthalide Inhibits the Phenotypic Switch of VSMCs through Activation of AMPK and Prevents Stenosis in an Arteriovenous Fistula Rat Model. *Int J Mol Sci.* 2020 Oct 7;21(19):7403. doi: 10.3390/ijms21197403. PMID: 33036484; PMCID: PMC7582375.

7. Bioactivity

Product data sheet



Biological target:

3-Butyridenephthalide (Butyridenephthalide) is a phthalic anhydride derivative identified in *Ligusticum chuanxiong* Hort, and has larvicidal activity (LC₅₀ of 1.56 mg/g for *Spodoptera litura* larvae).

In vitro activity

To establish an in vitro model that could mimic the responses of *n*-BP (n-butyridenephthalide) in SCA3 cerebellum, both HEK-293 cells expressing either GFP-ATXN3-28Q (control) or 84Q were used (Figure 3F). Reduced protein level of the GFP-ATXN3-84Q (m-ATXN3 and TFs) was observed, and this could have been the consequence of autophagy promotion by *n*-BP treatment. Both cellular and murine LC3B-II or p62 to GAPDH ratios were quantified using ImageJ software (Figure 3E,G), and the findings showed that *n*-BP could enhance autophagy.

Reference: Int J Mol Sci. 2021 Jun; 22(12): 6339. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8231882/>

In vivo activity

Human ovarian cancer xenografts were used to investigate the tumor-inhibiting effect of BP (butyridenephthalide) in mice. With BP treatment (200 mg/kg) in KURAMOCHI and OVSAHO cells, the tumor volumes were smaller than those of control mice treated with the vehicle (days 11-26 in KURAMOCHI [$p < 0.001$], day 14 -21 in OVSAHO [$P < 0.05$]) (Fig. 8A, 9A).

Reference: J Cancer. 2021; 12(11): 3126–3135. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8100814/>

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.