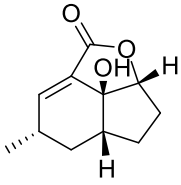


Product data sheet



MedKoo Cat#: 561877 Name: Galiellalactone CAS#: 133613-71-5 Chemical Formula: C ₁₁ H ₁₄ O ₃ Exact Mass: 194.0943 Molecular Weight: 194.23	
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:

Galiellalactone is a natural STAT3 inhibitor. It has been shown to inhibit IL-6-dependent JAK/STAT signaling and induce cell-cycle arrest in G2/M phase and apoptosis in androgen-insensitive prostate cancer cells via activation of ATM/ATR pathway.

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	0.97	4.99
Ethanol	0.97	4.99

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	5.15 mL	25.74 mL	51.49 mL
5 mM	1.03 mL	5.15 mL	10.30 mL
10 mM	0.51 mL	2.57 mL	5.15 mL
50 mM	0.10 mL	0.51 mL	1.03 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

- Hellsten R, Lilljebjörn L, Johansson M, Leandersson K, Bjartell A. The STAT3 inhibitor galiellalactone inhibits the generation of MDSC-like monocytes by prostate cancer cells and decreases immunosuppressive and tumorigenic factors. *Prostate*. 2019 Oct;79(14):1611-1621. doi: 10.1002/pros.23885. Epub 2019 Jul 26. PMID: 31348843; PMCID: PMC6771992.
- Handle F, Puhr M, Schaefer G, Lorito N, Hofer J, Gruber M, Guggenberger F, Santer FR, Marques RB, van Weerden WM, Claessens F, Erb HHH, Culig Z. The STAT3 Inhibitor Galiellalactone Reduces IL6-Mediated AR Activity in Benign and Malignant Prostate Models. *Mol Cancer Ther*. 2018 Dec;17(12):2722-2731. doi: 10.1158/1535-7163.MCT-18-0508. Epub 2018 Sep 25. PMID: 30254184.

In vivo study

- Canesin G, Maggio V, Palominos M, Stiehm A, Contreras HR, Castellón EA, Morote J, Paciucci R, Maitland NJ, Bjartell A, Hellsten R. STAT3 inhibition with galiellalactone effectively targets the prostate cancer stem-like cell population. *Sci Rep*. 2020 Aug 18;10(1):13958. doi: 10.1038/s41598-020-70948-5. PMID: 32811873; PMCID: PMC7434889.
- Thaper D, Vahid S, Kaur R, Kumar S, Nouruzi S, Bishop JL, Johansson M, Zoubeidi A. Galiellalactone inhibits the STAT3/AR signaling axis and suppresses Enzalutamide-resistant Prostate Cancer. *Sci Rep*. 2018 Nov 23;8(1):17307. doi: 10.1038/s41598-018-35612-z. PMID: 30470788; PMCID: PMC6251893.

Product data sheet



7. Bioactivity

Biological target:

Galiellalactone is a selective inhibitor of STAT3 signaling, with an IC50 of 250-500 nM.

In vitro activity

Galiellalactone significantly reduced the levels of secreted IL8 from DU145 and LNCaP-IL6 cells and decreased the IL8 mRNA levels in DU145 cells (Figure 3C).

Reference: Prostate. 2019 Oct 1; 79(14): 1611–1621. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6771992/>

In vivo activity

Consistent with our in vitro data (Fig. 2A), treatment with GPA500 reduced tumor growth compared to control (Fig. 4A). Consequently, the serum PSA in the treated mice was also lower (Fig. 4B).

Reference: Sci Rep. 2018; 8: 17307. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6251893/>

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.