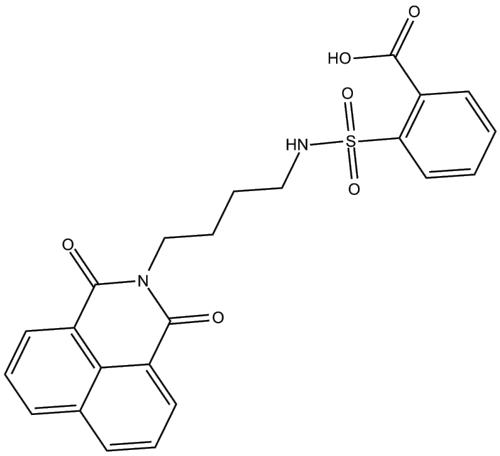
Product Data Sheet

Product Name: DBIBB
Cat. No.: GC16558

Chemical Properties

Cas. No.	1569309-92-7		
Chemical Name	2-[[[4-(1,3-dioxo-1H-benz[de]isoquinolin-2(3H)-yl)butyl]amino]sulfonyl]-benzoic acid		
SMILES	O=C(C1=C2C(C=CC=C23)=CC=C1)N(CCCCNS(C4=C(C(O)=O)C=CC=C4)(=O)=O)C3=O		
Formula	$C_{23}H_{20}N_2O_6S$	M.Wt	452.5
Solubility	≤30mg/ml in DMSO;10mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

DBIBB, a butylsulfamoyl benzoic acid analog, is a non-lipid agonist of LPA2 with an EC50 of 0.10 μM. DBIBB has no effect at other LPA receptor subtypes [1]. The bioactive phospholipid lysophosphatidic acid (LPA) has been involved in stimulating cell proliferation, migration and survival

Caution: Product has not been fully validated for medical applications. For research use only.
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by acting on its cognate G-protein-coupled receptors. Aberrant LPA production, receptor expression and signalling probably contribute to cancer initiation, progression and metastasis [2].

In vitro: DBIBB treatment postirradiation significantly ($p< 0.01$) increased the clonogenic survival of IEC-6 cells in the 2-6 Gy dose range. DBIBB reduced DNA fragmentation 4hr after irradiation in a dose dependent manner. DBIBB also reduced caspase 3/7 activity and DNA fragmentation in LPA2MEF treated with adriamycin. In purified CD34+ progenitor cells, DBIBB significantly increased the total number of colonies and specifically enhanced the survival of the granulocyte/macrophage lineages [1].

In vivo: Using a murine GI-ARS mice model of partial-body irradiation (PBI) with shielding of the bone marrow contained in the tibiae, fibulae, and paws, administrations of up to 10 mg/kg of DBIBB for 10 days showed no visually observable adverse effects and pathological findings at necropsy, indicating the lack of toxicity. The group that received 10 mg/kg DBIBB showed a significant increase in survival. In C57BL/6 mice, DBIBB showed a dose-dependent increase in the number of surviving crypts compared with the vehicle control [1].

References:
[1] Patil R, Szabó E, Fells J I, et al. Combined Mitigation of the Gastrointestinal and Hematopoietic Acute Radiation Syndromes by an LPA 2 Receptor-Specific Nonlipid Agonist[J]. Chemistry & biology, 2015, 22(2): 206-216.
[2] Mills G B, Moolenaar W H. The emerging role of lysophosphatidic acid in cancer[J]. Nature Reviews Cancer, 2003, 3(8): 582-591.