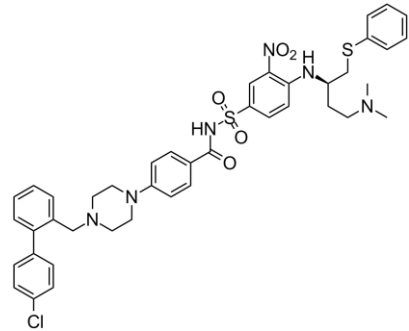


Product Data Sheet

Chemical Properties

Product Name:	ABT-737	
Cas No.:	852808-04-9	
M.Wt:	813.43	
Formula:	C42H45ClN6O5S2	
Synonyms:	ABT 737, ABT737	
Chemical Name:	4-[4-[[2-(4-chlorophenyl)phenyl]methyl]piperazin-1-yl]-N-[4-[[[(2R)-4-(dimethylamino)-1-phenylsulfanylbutan-2-yl]amino]-3-nitrophenyl]sulfonyl]benzamide	
Canonical SMILES:	<chem>CN(C)CCC(CSC1=CC=CC=C1)NC2=C(C=C(C=C2)S(=O)(=O)NC(=O)C3=CC=C(C=C3)N4CCN(CC4)CC5=CC=CC=C5C6=CC=C(C=C6)Cl)[N+](=O)[O-]</chem>	
Solubility:	>40.7mg/mL in DMSO	
Storage:	Store at -20°C	
General tips:	For obtaining a higher solubility , please warm the tube at 37° C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20° C for several months.	
Shopping Condition:	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request	

Biological Activity

Targets :	Bcl-2 Family
Pathways:	Apoptosis >> Bcl-2 Family
Description:	

ABT-737 is a novel and potent inhibitor of B-cell lymphoma 2 (BCL-2) family proteins, which are critical for cell survival and overexpressed in many tumor cells, with high affinity towards BCL-XL, BCL-2, and BCL-w but no affinity towards less homologous proteins, such as BCL-B, MCL-1, and A1. ABT-737 has shown single-agent activity against lymphoma and small-cell lung cancer as well

as substantial antimyeloma activity both in vitro and in vivo. In recent studies, acute myeloid leukemia blast, originator, and stem cells are effectively killed by ABT-737 with normal hematopoietic cells intact. The disruption of the BCL-2/BAX complex and BAK-dependent but BIM-independent activation of the intrinsic apoptotic pathway could also be induced by ABT-737.

Reference:

Marina Konopleva, Rooha Contractor, Twee Tsao, Ismael Samudio, Peter P. Ruvolo, Shinichi Kitada, Xingming Deng, Dayong Zhai, Yue-Xi Shi, Thomas Sneed, Monique Verhaegen, Maria Soengas, Vivian R. Ruvolo, Teresa McQueen, Wendy D. Schober, Julie C. Watt, Tilahun Jiffar, Xiaoyang Ling, Frank C. Marini, David Harris, Martin Dietrich, Zeev Estrov, James McCubrey, W. Stratford May, John C. Reed, and Michael Andreeff. Mechanisms of apoptosis sensitivity and resistance to the BH3 mimetic ABT-737 in acute myeloid leukemia. Cancer Cell 2006; 10; 375-388

Suzanne Trudel, A. Keith Stewart, Zhihua Li, Yanjun Shu, Sheng-Ben Liang, Young Trieu, Donna Reece, Josh Paterson, Dingyan Wang, and Xiao-Yan Wen. The Bcl-2 family protein inhibitor, ABT-737, has substantial antimyeloma activity and shows synergistic effect with dexamethasone and melphalan. Clin Cancer Res 2007; 13 (2) 621-629

Protocol

Cell experiment:

Cell lines	Small-cell lung cancer (SCLC) cell (NCI-H889, NCI-H1963, NCI-H1417, NCI-H146, NCI-187, DMS79, NCI-1048, NCI-H82, NCI-H196, H69AR, and DMS114) lines.
Preparation method	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions	48 h; 10 µM
Applications	The ability of ABT-737 to inhibit cell proliferation with single-agent activity was evaluated against a panel of 11 kinds of SCLC cell lines. Ac-DEVD-AMC, a substrate for activated caspase 3, was used to treatment of H146 cells for 24 h. A dose-dependent increase in apoptosis coincided with a dose-dependent decrease in cell viability following ABT-737 treatment suggesting that ABT-737 inhibits cell proliferation through the induction of apoptosis.

Animal experiment [3]:

Animal models	Lymphoma-prone Eµ- myc transgenic mice
Dosage form	75 mg/kg body weight; the tail injection.

Applications

All B-lymphoid subsets in the ABT-737-treatment (75 mg/kg) cohort were significantly decreased, compared with the vehicle-treated animals, in both the bone marrow and the spleen. Eμ- myc animals treated with ABT-737 contained significantly (**P<0.01) more apoptotic cells in their bone marrow than vehicle-treated mice.

Other notes

Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Reference:

[1] Tahir S K, Yang X, Anderson M G, et al. Influence of Bcl-2 family members on the cellular response of small-cell lung cancer cell lines to ABT-737[J]. *Cancer research*, 2007, 67(3): 1176-1183.

[2] Kelly P N, Grabow S, Delbridge A R D, et al. Prophylactic treatment with the BH3 mimetic ABT-737 impedes Myc-driven lymphomagenesis in mice[J]. *Cell Death & Differentiation*, 2012, 20(1): 57-63.

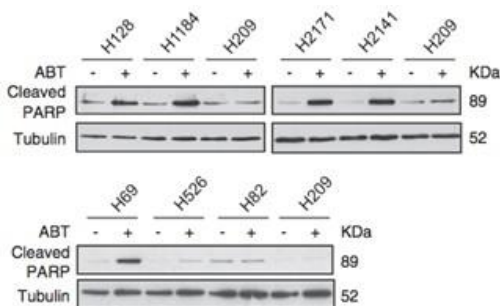
Product Citations

1. Winter PS, et al. "RAS signaling promotes resistance to JAK inhibitors by suppressing BAD-mediated apoptosis." *Sci Signal*. 2014 Dec 23. PMID:25538080

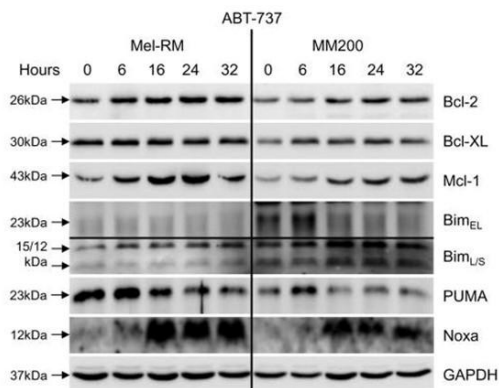
2. Moriwaki, Kenta, et al. "The Mitochondrial Phosphatase PGAM5 Is Dispensable for Necroptosis but Promotes Inflammasome Activation in Macrophages." *The Journal of Immunology* (2015): 1501662. PMID:26582950

3. Xiang XY, Kang JS, et al. "SIRT3 participates in glucose metabolism interruption and apoptosis induced by BH3 mimetic S1 in ovarian cancer cells." *Int J Oncol*. 2016 Aug;49(2):773-84. PMID:27277143

Product Validation



Apoptosis induced by ABT-737 (100 nM) treatment for 24h in SCLC cell lines was detected by poly ADP-ribose polymerase (PARP) cleavage with immunoblot.



Whole cell lysates of Mel-RM and MM200 cells were subjected to Western blot analysis following treatment with ABT-737 (10 μ M) for indicated periods. Data are representative of three individual experiments.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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