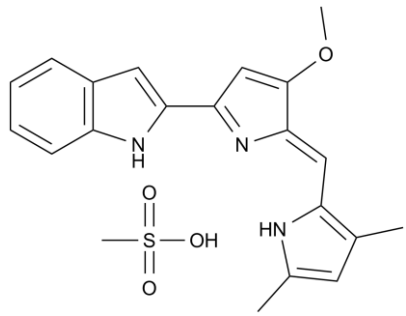
Product Name: Obatoclax mesylate (GX15-070)

Revision Date: 6/30/2016

# Product Data Sheet

## Chemical Properties



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| **Product Name:** | Obatoclax mesylate (GX15-070) |
| **Cas No.:** | 803712-79-0 |
| **M.Wt:** | 413.5 |
| **Formula:** | C20H19N3O.CH4O3S |
| **Chemical Name:** | (2Z)-2-[(5Z)-5-[(3,5-dimethyl-1H-pyrrol-2-yl)methylidene]-4-methoxy pyrrol-2-ylidene]indole;methanesulfonic acid |
| **Canonical SMILES:** | CC1=CC(=C(N1)C=C2C(=CC(=C3C=C4C=CC=CC4=N3)N2)OC)C.CS(=O)(=O)O |
| **Solubility:** | >20.7mg/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<br>All other available size: ship with RT , or blue ice upon request |

## Biological Activity

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| **Targets :** | Apoptosis |
| **Pathways:** | Bcl-2 Family |

**Description:**

Obatoclax mesylate, also known as GX15-070, is a hydrophobic small molecule that potently inhibits BCL-2 family by binding to the BH3-binding site of BCL-2 and other related BCL-2 family members (including BCL-XL, MCL-1, A1, and BCL-B). As a pan-BCL-2 inhibitor being investigated for the treatment of refractory malignancies, obatoclax mesylate directly induce apoptosis in cultured acute myeloid leukemia (AML) cells as well as primary patient samples and exhibits

antitumor activity in mouse xengografts of solid tumor and myeloma cell lines. Study results have shown that obatoclax mesylate inhibited clonogenic growth of primary AML samples (IC50 < nmol/L) and dissociated Bak and Bim from MCL-1 in cultured AML cells.

***Reference**:*
*Aaron D. Schimmer, Susan O'Brien, Hagop Kantarjian, Joseph Brandwein, Bruce D. Cheson, Mark D. Minden, Karen Yee, Farhad Ravandi, Francis Giles, Andre Schuh, Vikas Gupta, Michael Andreeff, Charles Koller, Hong Chang, Suzanne Kamel-Reid, Mark Berger, Jean Viallet, and Gautam Borthakur. A phase I study of the Pan BCL-2 family inhibitor obatoclax mesylate in patients with advanced hematologic malignancies. Clin Cancer Res 2008; 14:8295-8301*

## Protocol

**Cell experiment:**

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| Cell lines | UMSCC-22A cells stably expressing GFP-LC3 |
| 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 | 200 nM, 48 hours |
| Applications | After the treatment, cells were fixed in 4% paraformaldehyde and then stained with Hoechst 33258. A confocal microscope was used to visualize GFP-LC3 punctate dots. Treatment of these cells for 24 or 48 h with obatoclax (100 or 200 nM) resulted in relocalization of the GFP-LC3 protein to punctate cytoplasmic dots, an indicator of autophagosome formation. Treatment with obatoclax resulted in an approximately 10-fold increase in the average number of puncta per cell at 48 h as well as 24 h. |

**Animal experiment [3]:**

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| Animal models | Beige-nude-XID mice injected with SUDHL4 cells |
| Dosage form | Intraperitoneal injection, 3.0 mg/kg |
| Applications | Obatoclax (3.0 mg/kg) had little effect on tumor growth while carfilzomib (2.0 mg/kg) by itself significantly reduced tumor size. Combined treatment resulted in minimal tumor growth, an effect significantly greater than that observed with either agent alone. IVIS imaging of luciferase-expressing tumor cells confirmed the marked reduction in tumor growth with combined therapy. Kaplan-Meier |

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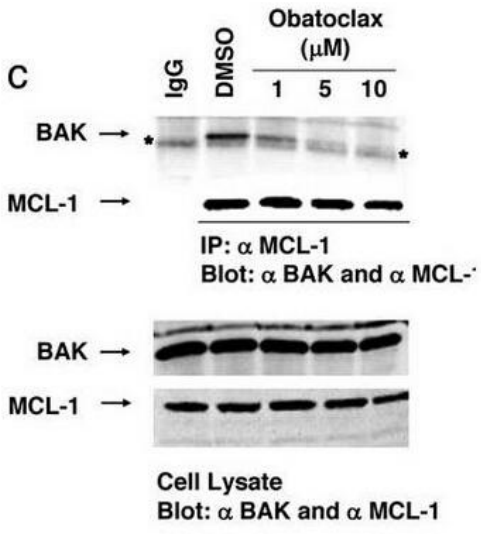
| | analysis also demonstrated that that carfilzomib significantly increased the survival of obatoclax-treated mice. |
| Other notes | Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal. |


***Reference**:*
*[1] Yazbeck VY, Li C, Grandis JR, Zang Y, Johnson DE. Single-agent obatoclax (GX15-070) potently induces apoptosis and pro-survival autophagy in head and neck squamous cell carcinoma cells. Oral Oncol. 2014 Feb;50(2):120-7.*
*[2] Dasmahapatra G, Lembersky D, Son MP, Patel H, Peterson D, Attkisson E, Fisher RI, Friedberg JW, Dent P, Grant S. Obatoclax interacts synergistically with the irreversible proteasome inhibitor carfilzomib in GC- and ABC-DLBCL cells in vitro and in vivo. Mol Cancer Ther. 2012 May;11(5):1122-32.*

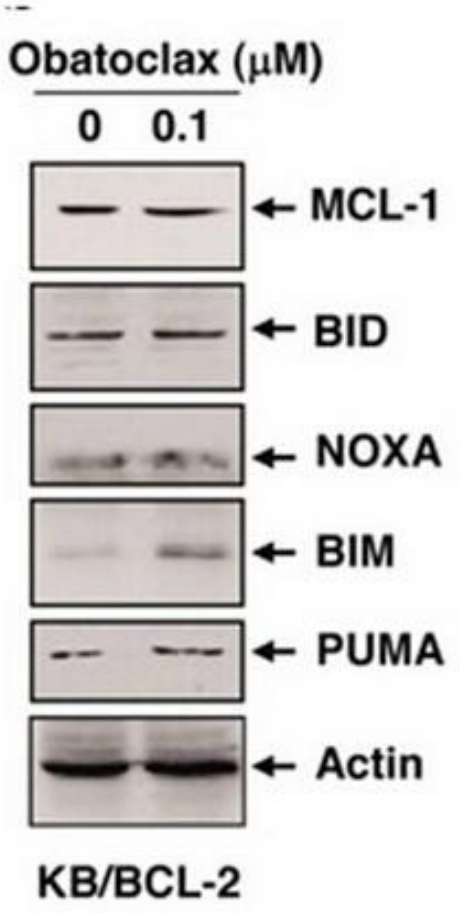

## Product Citations


*1. 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




Obatoclax antagonizes MCL-1/BAK association in cells




Treatment of obatoclax increases BIM but does not affect MCL=1,BID,NOXA,and PUMA level

## 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. Shortterm 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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