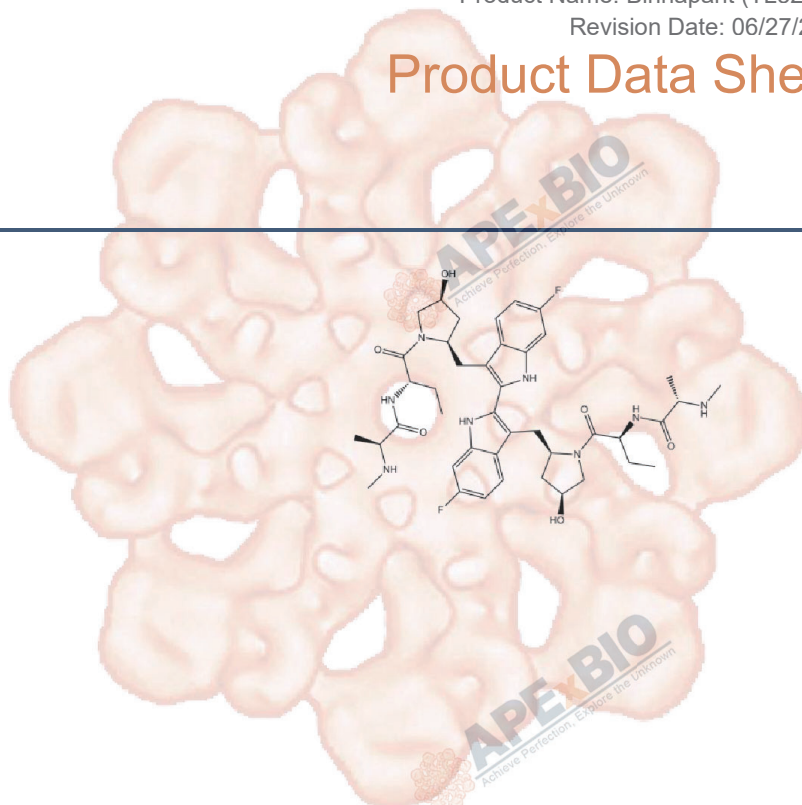


Product Data Sheet

Birinapant (TL32711)

Cat. No.:	A4219
CAS No.:	1260251-31-7
Formula:	C42H56F2N8O6
M.Wt:	806.94
Synonyms:	
Target:	Apoptosis
Pathway:	IAP
Storage:	Store at -20°C



Solvent & Solubility

≥40.35 mg/mL in DMSO; insoluble in H₂O; ≥46.9 mg/mL in EtOH

In Vitro	Preparing Stock Solutions	Mass			
		Solvent	1mg	5mg	10mg
		Concentration			
		1 mM	1.2392 mL	6.1962 mL	12.3925 mL
		5 mM	0.2478 mL	1.2392 mL	2.4785 mL
		10 mM	0.1239 mL	0.6196 mL	1.2392 mL

Please refer to the solubility information to select the appropriate solvent

Biological Activity

Shortsummary	Potent XIAP/cIAP1 antagonist	
IC ₅₀ & Target	45 nM (Kd) (XIAP), <1 nM (Kd) (cIAP1)	
In Vitro	Cell Viability Assay	
	Cell Line:	SUM149 and SUM190 inflammatory breast cancer cell
	Preparation method:	Limited solubility. 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:	24 h-96 h

	Applications:	Birinapant causes a significant degradation of cIAP1 and 2, which was not enhanced by the addition of TRAIL. Birinapant is also more effective in increasing TRAIL potency than GT13402 in SUM149. In addition, Birinapant markedly decreases the viability of SUM190 cells in a dose-dependent manner.
In Vivo	Animal experiment	
	Animal models:	Melanoma tumor xenotransplantation mice
	Dosage form:	Intra-peritoneal; 30mg/kg
	Applications:	Compared to vehicle control, cIAP1 protein is reduced to low levels at 3h post and this effect is sustained for 24 hours in the Birinapant treated mice. Staining for activated caspase-3 in biopsies of the same tumors shows a modest increase in apoptotic cells in the Birinapant treated mice compared to vehicle control, 24h post treatment.
	Preparation method:	Dissolved in 12.5% Captisol in distilled water.
	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.

Product Citations

1. De Vlaeminck Y, Lecocq Q, et al. "Single-domain antibody fusion proteins can target and shuttle functional proteins into macrophage mannose receptor expressing macrophages." J Control Release. 2019 Apr 10;299:107-120.PMID:30797866
2. Rosner A, Kravchenko O, et al. "IAP genes partake weighty roles in the astogeny and whole body regeneration in the colonial urochordate Botryllus schlosseri." Dev Biol. 2018 Oct 30. pii: S0012-1606(17)30904-1.PMID:30385275
3. Hao Q, Tang H. "Interferon- γ and Smac mimetics synergize to induce apoptosis of lung cancer cells in a TNF α -independent manner." Cancer Cell Int. 2018 Jun 14;18:84.PMID:29946223
4. Gradzka S, Thomas OS, et al. "Inhibitor of apoptosis proteins are required for effective fusion of autophagosomes with lysosomes." Cell Death Dis. 2018 May 9;9(5):529.PMID:29743550
5. van Wijk SJL, Fricke F, et al. "Linear ubiquitination of cytosolic Salmonella Typhimurium activates NF- κ B and restricts bacterial proliferation." Nat Microbiol. 2017 May 8;2:17066.PMID:28481361

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References

1. Allensworth JL, Sauer SJ, Lyerly HK et al. Smac mimetic Birinapant induces apoptosis and enhances TRAIL potency in inflammatory breast cancer cells in an IAP-dependent and TNF- α -independent mechanism. Breast Cancer Res Treat. 2013 Jan;137(2):359-71.
2. Krepler C, Chunduru SK, Halloran MB et al. The novel SMAC mimetic birinapant exhibits potent activity against human melanoma cells. Clin Cancer Res. 2013 Apr 1;19(7):1784-94.

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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