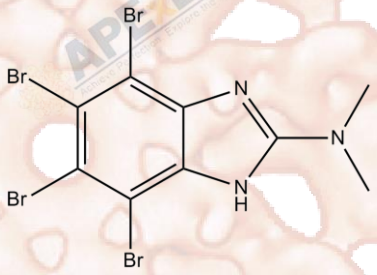
Product Data Sheet

DMAT

Cat. No.:	A3368
CAS No.:	749234-11-5
Formula:	C9H7Br4N3
M.Wt:	476.79
Synonyms:	Casein kinase II Inhibitor;CK2 Inhibitor
Target:	PI3K/Akt/mTOR Signaling
Pathway:	CK2
Storage:	Store at -20°C



Solvent & Solubility

In Vitro

≥23.85 mg/mL in DMSO; insoluble in EtOH; insoluble in H2O

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	2.0974 mL	10.4868 mL	20.9736 mL
5 mM	0.4195 mL	2.0974 mL	4.1947 mL
10 mM	0.2097 mL	1.0487 mL	2.0974 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	CK2 inhibitor,potent and selective
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	Human pluripotent adrenocortical cell line H295R (CRL-2128)
Preparation method：	Soluble in DMSO > 23.9mg/mL. 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:	DMAT in 96% ethanol and Nu-Serum-free culture medium; final concentrations

		of 10-4–10-10 M; 72 h
	Applications:	Treatment with DMAT decreased the secretion of aldosterone, dehydroepiandrosterone sulfate, and androstendione and resulted in an accumulation of 17-OH-progesterone(17-Hydroxyprogesterone). Cell growth was inhibited, and cell cycle analysis had revealed a slight induction of apoptosis.
In Vivo	**Animal experiment**	
	Animal models:	6-8-week old male NMRI mice bearing HepG2 human hepatoma cells xenotransplant
	Dosage form:	500 μg/kg in DMSO/PBS; daily for 10 days; intraperitoneal injection
	Applications:	DMAT application in vivo reduced tumor growth in a xenotransplant model by interference with tumor cell proliferation. DMAT reduced HCC(Hepatocellular carcinoma) growth by interference with NFκB- and Wnt-signaling
	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. Zhao Z, Wang L, et al."Regulation of MLL/COMPASS stability through its proteolytic cleavage by taspase1as a possible approach for clinical therapy of leukemia." Genes Dev. 2019 Jan1;33(1-2):61-74.PMID:30573454
2. Shinrye Lee, Yu-Mi Jeon, et al. "PTK2 regulates the UPS impairment via p62 phosphorylation in TDP-43 proteinopathy." bioRxiv.2018.June 25.

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References

[1]. Lawnicka H1, Kowalewicz-Kulbat M, et al, Anti-neoplastic effect of protein kinase CK2 inhibitor, 2-dimethylamino-4,5,6,7-tetrabromobenzimidazole (DMAT), on growth and hormonal activity of human adrenocortical carcinoma cell line (H295R) in vitro. Cell Tissue Res. 2010 May;340(2):371-9. doi: 10.1007/s00441-010-0960-1. Epub 2010 Apr 6.
[2]. Sass G1, Klinger N, et al, Inhibition of experimental HCC growth in mice by use of the kinase inhibitor DMAT. Int J Oncol. 2011 Aug;39(2):433-42. doi: 10.3892/ijo.2011.1037. Epub 2011 May 10.

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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