PRODUCT INFORMATION



BODIPY-aminoacetaldehyde diethyl acetal

Item No. 9002056

CAS Registry No.:	247069-93-8	
Formal Name:	(T-4)-[N-(2,2-diethoxyethyl)-	
	5-[(3,5-dimethyl-2H-pyrrol-2-	
	vlidene-kN)methyl]-1H-pyrrole-2-	
	propanamidato- κN^1]difluoro-boron	
Synonym:	BAAA-DA	
MF:	C ₂₀ H ₂₈ BF ₂ N ₃ O ₃	
FW:	407.3	
Purity:	≥95%	F F N
Em. Max:	512 nm	H O
Supplied as:	A solution in methyl acetate	
Storage:	-20°C	
Stability:	≥2 years	
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis		

Description

BODIPY-aminoacetaldehyde diethyl acetal (BAAA-DA) is a stable precursor to BODIPY-aminoacetaldehyde, a cell-permeable fluorescent substrate for aldehyde dehydrogenase (ALDH).^{1,2} BODIPY-aminoacetaldehyde diethyl acetal is converted under acidic conditions to BODIPY-aminoacetaldehyde (BAAA).² BAAA is cell-permeant and is converted intracellularly by ALDH to BODIPY aminoacetate (BAA), which is retained by cells and can be used to identify cells with high ALDH activity.¹ BAA is a substrate for the efflux pump P-glycoprotein (P-gp) but co-application of BAAA with a P-gp inhibitor, such as verapamil (Item No. 14288), inhibits BAA efflux.² BAAA-DA has been used to isolate human hematopoietic progenitor cells, which have high ALDH activity, and via flow cytometry to sort cancer stem cells that contain high levels of ALDH.^{1,3} BAA used in cells can be excited at 488 nm and displays an emission maximum of 512 nm.⁴

References

- 1. Storms, R.W., Trujillo, A.P., Springer, J.B., et al. Isolation of primitive human hematopoietic progenitors on the basis of aldehyde dehydrogenase activity. Proc. Natl. Acad. Sci. USA 96(16), 9118-9123 (1999).
- 2. Smith, C.A., Colvin, M., Storms, R.W., et al. BODIPY aminoacetaldehyde diethyl acetal. Duke University EP 1 975 243 B1 (2010).
- 3. Leng, Z., Yang, Z., Li, L., et al. A reliable method for the sorting and identification of ALDH^{high} cancer stem cells by flow cytometry. Exp. Ther. Med. 14(4), 2801-2808 (2017).
- 4. Pomper, M.G., Wang, H., Minn, I., et al. Red fluorescent aldehyde dehydrogenase (ALDH) substrate. The Johns Hopins University US 2015/0369738 A1 (2015).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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1180 EAST ELLSWORTH RD ANN ARBOR, MI 48108 · USA PHONE: [800] 364-9897 [734] 971-3335 FAX: [734] 971-3640 CUSTSERV@CAYMANCHEM.COM WWW.CAYMANCHEM.COM