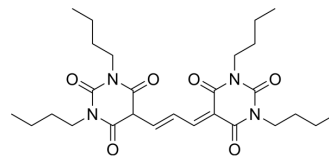


DiBAC4(3)

Cat. No.:	HY-101892
CAS No.:	70363-83-6
Molecular Formula:	C ₂₇ H ₄₀ N ₄ O ₆
Molecular Weight:	516.63
Emission (Em):	505
Excitation(Ex):	490
Target:	Fluorescent Dye
Pathway:	Others
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (96.78 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.9356 mL	9.6781 mL	19.3562 mL
	5 mM	0.3871 mL	1.9356 mL	3.8712 mL
	10 mM	0.1936 mL	0.9678 mL	1.9356 mL

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

BIOLOGICAL ACTIVITY

Description

DiBAC4(3) is a voltage-sensitive fluorescent dye ($\lambda_{ex}=490$ nm, $\lambda_{em}=505$ nm).

In Vitro

The membrane hyperpolarization induced by 10 μ M Evans blue (EB) in HEK293 cells is clearly observed with DiBAC4(3), while the change in membrane potential (MP) by addition of 3 mM tetraethylammonium chloride (TEA) appears more slowly than that measured with microelectrode. The time to peak of hyperpolarization is 2.3 \pm 0.9 s (n=4) and 35.0 \pm 2.6 s (n=12, P<0.01) by the measurements with microelectrodes and DiBAC4(3), respectively^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay^[1]

Prior to the fluorescence measurements, cells are incubated in KRH (Krebs-Ringer-HEPES) buffer containing with 100 nM DiBAC4(3) for 20 min at room temperature. The stained cells are used for experiments without washing. The fluorescence emission is collected using a 505 nm dichroic mirror and a BA filter (>520 nm)^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Metab. 2022 Sep 7;S1550-4131(22)00359-X.
- ACS Nano. 2024 Apr 23;18(16):10829-10839.
- ACS Appl Mater Interfaces. 2024 Oct 28.
- Biomed Pharmacother. 2024 Aug 28;179:117352.
- J Oral Microbiol. 2023 Dec 10.

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REFERENCES

[1]. Yamada A, et al. Usefulness and limitation of DiBAC4(3), a voltage-sensitive fluorescent dye, for the measurement of membrane potentials regulated by recombinant large conductance Ca²⁺-activated K⁺ channels in HEK293 cells. Jpn J Pharmacol. 2001 Jul;86(3):342-50.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite F, Monmouth Junction, NJ 08852, USA