

Produktinformation



Forschungsprodukte & Biochemikalien
Zellkultur & Verbrauchsmaterial
Diagnostik & molekulare Diagnostik
Laborgeräte & Service

Weitere Information auf den folgenden Seiten! See the following pages for more information!



Lieferung & Zahlungsart siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien T. +43(0)1 489 3961-0 F. +43(0)1 489 3961-7 <u>mail@szabo-scandic.com</u> www.szabo-scandic.com

PRODUCT INFORMATION



1-EBIO

Item No. 14575

10045-45-1
1-ethyl-1,3-dihydro-2H-
benzimidazol-2-one н
1-Ethylbenzimidazolinone
$C_9H_{10}N_{20}$
≥98%
λ _{max} : 229, 285 nm
A crystalline solid
-20°C
≥4 years
the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1-EBIO is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-EBIO in the solvent of choice, which should be purged with an inert gas. 1-EBIO is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 1-EBIO in ethanol is approximately 30 mg/ml and approximately 100 mg/ml in DMSO and DMF.

1-EBIO is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 1-EBIO should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 1-EBIO has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

1-EBIO is an activator of Ca²⁺-sensitive K⁺ channels (EC₅₀ = 490 μ M in T84 human carcinoma cells).¹ This action is sensitive to the neurotoxin charybdotoxin (K_i = 3.5 nM). In mouse colonic epithelia, 1-EBIO also activates cAMP-sensitive K^+ channels, a response this is inhibited by 293B.² In this type of epithelium, but not mouse nasal epithelia, 1-EBIO activates both types of channels, resulting in large CI- secretory currents.³ It also activates the human intermediate conductance Ca²⁺-activated K⁺ channel ($EC_{50} = 74 \mu M$).⁴ 1-EBIO is currently used to study the role of these types of K⁺ channels in diverse physiological functions.^{5,6}

References

- 1. Devor, D.C., Singh, A.K., Frizzell, R.A., et al. Modulation of Cl- secretion by benzimidazolones. I. Direct activation of a Ca(2+)-dependent K+ channel. Am. J. Physiol. 271(5 Pt 1), L775-L784 (1996).
- Cuthbert, A.W., Hickman, M.E., Thorn, P., et al. Activation of Ca2+- and cAMP-sensitive K⁺ channels in 2. murine colonic epithelia by 1-ethyl-2-benzimidazolone. Am. J. Physiol. 277(1), C111-C120 (1999).
- 3 MacVinish, L.J., Hickman, M.E., Mufti, D.A., et al. Importance of basolateral K⁺ conductance in maintaining Cl⁻ secretion in murine nasal and colonic epithelia. J. Physiol. 510(1), 237-247 (1998).
- 4. Jensen, B.S., Strobæk, D., Christophersen, P., et al. Characterization of the cloned human intermediateconductance Ca²⁺-activated K⁺ channel. Am. J. Physiol. 275(3), C848-C856 (1998).
- 5. Gao, Z., Todorov, B., Barrett, C.F., et al. Cerebellar ataxia by enhanced Ca, 2.1 currents is alleviated by Ca²⁺-dependent K⁺-channel activators in Cacna1aS218L mutant mice. J. Neurosci. 32(44), 15533-15546 (2012).
- 6. Maiz, J., Karakossian, M.H., Pakaprot, N., et al. Prolonging the postcomplex spike pause speeds eyeblink conditioning. Proc. Natl. Acad. Sci. USA 109(41), 16726-16730 (2012).

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.

WARRANTY AND LIMITATION OF REMEDY

subject to Cavman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information Buyer agrees to purchase the material can be found on our website.

Copyright Cayman Chemical Company, 11/23/2022

CAYMAN CHEMICAL

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