TOCRIS
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Print Date: Jan 8th 2016

# Certificate of Analysis

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**Product Name:** **1-EBIO** **Catalog No.: 1041** **Batch No.: 7**

CAS Number: 10045-45-1 EC Number: 233-148-1

IUPAC Name: 1-Ethyl-2-benzimidazolinone

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** $C_9H_{10}N_2O$

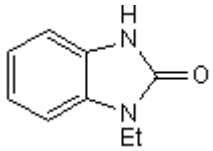
**Batch Molecular Weight:** 162.19

**Physical Appearance:** White solid

**Solubility:** ethanol to 100 mM
DMSO to 100 mM
tris buffer solution to 33 mM with gentle warming

**Storage:** Store at RT

**Batch Molecular Structure:**




## 2. ANALYTICAL DATA

**HPLC:** Shows >99.8% purity

**$^1$H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

| | Carbon | Hydrogen | Nitrogen |
|---|---|---|---|
| Theoretical | 66.65 | 6.21 | 17.27 |
| Found | 66.58 | 6.29 | 17.24 |



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IUPAC Name: 1-Ethyl-2-benzimidazolinone

**Description:**

Activator of epithelial $K_{Ca}$ channels, stimulates a large and sustained trans-epithelial $Cl^-$ secretory response across T84 monolayers. Induces hyperpolarization to the same magnitude as ACh in aortic value endothelial cells. Promotes embryonic stem cell (ESC) differentiation into cardiomyocytes.

**Physical and Chemical Properties:**

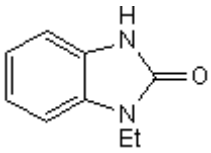
Batch Molecular Formula: $C_9H_{10}N_2O$

Batch Molecular Weight: 162.19

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**




**Storage:** Store at RT

**Solubility & Usage Info:**

ethanol to 100 mM
DMSO to 100 mM
tris buffer solution to 33 mM with gentle warming

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Devor** *et al* (1996) Modulation of $Cl^-$ secretion by benzimidazolones. I. Direct activation of a $Ca^{2+}$ - dependent $K^+$ channel. Am.J.Physiol. ***271*** L775. PMID: 8944721.

**Ayotunde and Adeagbo** (1999) 1-Ethyl-2-benzimidazolinone stimulates endothelial $K_{Ca}$ channels and nitric oxide formation in rat mesenteric vessels. Eur.J.Pharmacol. ***379*** 151. PMID: 10497901.

**Kusama** *et al* (2005) Reduced hyperpolarisation in endothelial cells of rabbit aortic value following chronic nitroglycerine administration. Br.J.Pharmacol. ***146*** 487. PMID: 16056232.

**Kleger** *et al* (2010) Modulation of calcium-activated potassium channels induces cardiogenesis of pluripotent stem cells and enrichment of pacemaker-like cells. Circulation. ***122*** 1823. PMID: 20956206.



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