

**Product Name:** Galloflavin

**Catalog No.:** 4795

**Batch No.:** 2

CAS Number: 1780260-20-9

IUPAC Name: 3,8,9,10-Tetrahydroxyprano[3,2-c][2]benzopyran-2,6-dione potassium salt

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>12</sub>H<sub>5</sub>O<sub>8</sub>K.2H<sub>2</sub>O

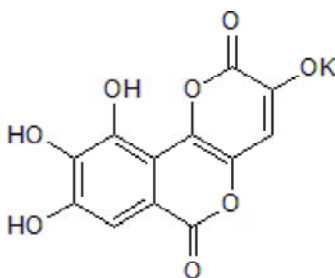
**Batch Molecular Weight:** 352.29

**Physical Appearance:** Brown solid

**Solubility:** DMSO to 5 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 98.6% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	40.91	2.57	
Found	40.74	2.69	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Galloflavin is an inhibitor of human lactate dehydrogenase (LDH) ( $K_i$  values are 5.46 and 15.1  $\mu$ M for LDH-A and LDH-B, respectively, in competition with pyruvate). Inhibits lactate production and decreases ATP synthesis in PLD/PRF/5 cells; thought to decrease cell viability via impairment of aerobic glycolysis.

**Physical and Chemical Properties:**

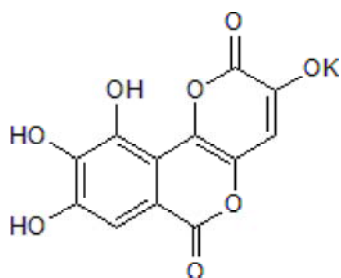
Batch Molecular Formula: C<sub>12</sub>H<sub>5</sub>O<sub>8</sub>K.2H<sub>2</sub>O

Batch Molecular Weight: 352.29

Physical Appearance: Brown solid

**Minimum Purity:**  $\geq$ 95%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**CAUTION** - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

**Solubility & Usage Info:**

DMSO to 5 mM

**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:**

**Fiume *et al*** (2013) Galloflavin prevents the binding of lactate dehydrogenase A to single stranded DNA and inhibits RNA synthesis in cultured cells. *Biochem.Biophys.Res.Commun.* **430** 466. PMID: 23237800.

**Farabegoli *et al*** (2012) Galloflavin, a new lactate dehydrogenase inhibitor, induces the death of human breast cancer cells with different glycolytic attitude by affecting distinct signaling pathways. *Eur.J.Pharm.Sci.* **47** 729. PMID: 22954722.

**Manerba *et al*** (2012) Galloflavin (CAS 568-80-9): a novel inhibitor of lactate dehydrogenase. *ChemMedChem* **7** 311. PMID: 22052811.

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