bio-techne
TOCRIS

Print Date: Jul 30th 2025

Certificate of Analysis

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Product Name: **Galloflavin** **Catalog No.: 4795** **Batch No.: 2**

CAS Number: 1780260-20-9

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{12}H_5O_8K.2H_2O$

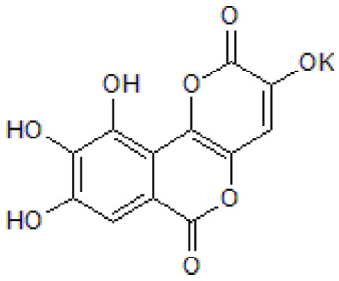
Batch Molecular Weight: 352.29

Physical Appearance: Brown solid

Solubility: DMSO to 5 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 95.8% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	40.91	2.57	
Found	40.74	2.69	

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Description:

Galloflavin is an inhibitor of human lactate dehydrogenase (LDH) (K_i values are 5.46 and 15.1 µM 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:

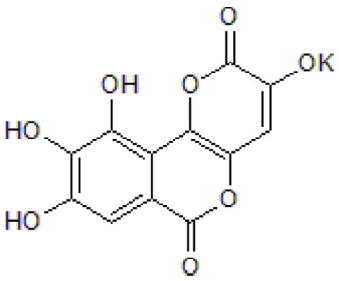
Batch Molecular Formula: $C_{12}H_5O_8K.2H_2O$

Batch Molecular Weight: 352.29

Physical Appearance: Brown solid

Minimum Purity: ≥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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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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