

**Product Name:** Rhein

**Catalog No.:** 6867

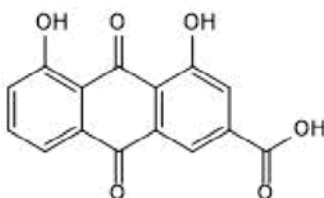
**Batch No.:** 1

CAS Number: 478-43-3

IUPAC Name: 9,10-Dihydro-4,5-dihydroxy-9,10-dioxo-2-anthracenecarboxylic acid

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>15</sub>H<sub>8</sub>O<sub>6</sub>  
**Batch Molecular Weight:** 284.22  
**Physical Appearance:** Yellow solid  
**Solubility:** DMSO to 5 mM with gentle warming  
 1.1eq. NaOH to 100 mM  
**Storage:** Store at -20°C  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 99.2% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	63.39	2.84	
Found	63.01	2.85	

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

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**Description:**

FTO (mRNA N<sup>6</sup>-methyladenine demethylase) inhibitor (IC<sub>50</sub> = 1.2 - 21 μM; K<sub>i</sub> = 1.8 μM). Competitively binds enzyme at active site preventing binding of N<sup>6</sup>-methyladenosine (m<sup>6</sup>A) substrate and resulting in accumulation of DNA damage in cells. Also inhibits ALKBH3 and ALKBH2 (IC<sub>50</sub> values are 5.3 and 9.1 μM, respectively). Sensitizes glioblastoma cells to alkylating agents. Active in vivo.

**Physical and Chemical Properties:**

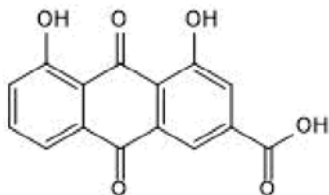
Batch Molecular Formula: C<sub>15</sub>H<sub>8</sub>O<sub>6</sub>

Batch Molecular Weight: 284.22

Physical Appearance: Yellow solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**References:**

Li *et al* (2016) Rhein inhibits AlkB repair enzymes and sensitizes cells to methylated DNA damage. *J.Biol.Chem.* **291** 11083. PMID: 27015802.

Svensen and Jaffrey *et al* (2016) Fluorescent RNA aptamers as a tool to study RNA-modifying enzymes. *Cell.Chem.Biol.* **23** 415. PMID: 26877022.

Chen *et al* (2012) Development of cell-active N<sup>6</sup>-methyladenosine RNA demethylase FTO inhibitor. *J.Am.Chem.Soc.* **134** 17963. PMID: 23045983.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 5 mM with gentle warming  
1.1eq. NaOH to 100 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.

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