**Product Information**

**Rhein**  
*Item No. 17345*

**CAS Registry No.:** 478-43-3  
**Formal Name:** 9,10-dihydro-4,5-dihydroxy-9,10-dioxo-2-anthracencarboxylic acid  
**Synonyms:** NSC 38629, Rheic Acid  
**MF:** C_{15}H_{8}O_{6}  
**FW:** 284.2  
**Purity:** ≥95%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis:** 

\[ \lambda_{\text{max}}: 231, 258, 431 \text{ nm} \]

### Laboratory Procedures

For long term storage, we suggest that rhein be stored as supplied at -20°C. It should be stable for at least two years.

Rhein is supplied as a crystalline solid. A stock solution may be made by dissolving the rhein in the solvent of choice. Rhein is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 15 mg/ml.

Rhein is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, rhein should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Rhein 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.

Rhein is an anti-inflammatory anthraquinone found in rhubarb and is the bioactive derivative of its prodrug diacerein (Item No. 11710). At 10 µM, rhein inhibits IL-1β signaling, suppressing signaling through NF-κB, and reduces the expression of the matrix metalloproteinases MMP-1 and MMP-13.\(^1\) It inhibits IKKβ (IC\(_{50} = 11.8 \mu M\)), decreasing iNOS and IL-6 expression in LPS-stimulated macrophages but paradoxically increasing TNF-α, IL-1β, and HMBG1 expression.\(^2\) Rhein shows efficacy against pancreatic fibrosis, chronic pancreatitis, and hyperglycemia-induced pancreatic β-cell apoptosis.\(^3, 4\) It also inhibits angiogenesis of breast cancer cells under normoxic and hypoxic conditions.\(^5\)

### References


### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/17345](http://www.caymanchem.com/catalog/17345)

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**WARNING:** This product is for laboratory research only; not for administration to humans. Not for human or veterinary diagnostic or therapeutic use.

**SAFETY DATA**

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent with each order. Cayman Chemical makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery. Cayman Chemical will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications. Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

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