

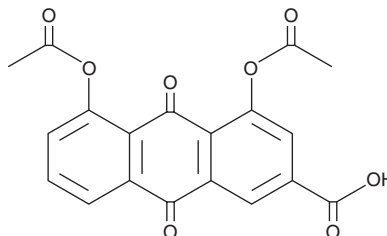
# PRODUCT INFORMATION



## Diacerein

Item No. 11710

**CAS Registry No.:** 13739-02-1  
**Formal Name:** 4,5-bis(acetyloxy)-9,10-dihydro-9,10-dioxo-2-anthracenecarboxylic acid  
**Synonyms:** DAR, Diacerhein, 4,5-Diacetylrhein, SF 277  
**MF:** C<sub>19</sub>H<sub>12</sub>O<sub>8</sub>  
**FW:** 368.3  
**Purity:** ≥98%  
**UV/Vis.:** 216, 255, 337 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years  
**Item Origin:** Plant/*Aloe barbadensis*



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

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

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

### Description

Diacerein is a prodrug form of the anthraquinone derivative rhein (Item No. 17345).<sup>1</sup> It inhibits RANKL- and IL-1 $\beta$ -induced differentiation of RAW 264.7 cells into osteoclasts when used at a concentration of 20  $\mu$ g/ml.<sup>2</sup> Diacerein (20  $\mu$ g/ml) reduces levels of interleukin-1 $\beta$ -converting enzyme (ICE), also known as caspase-1, as well as IL-1 $\beta$ , and IL-18 in the superficial zone of human osteoarthritic cartilage explants.<sup>3</sup> It decreases carrageenan-, dextran-, or zymosan-induced paw edema in rats when administered at a dose of 100 mg/kg.<sup>4</sup>

### References

1. Cai, J., Duan, Y., Yu, J., *et al.* Bone-targeting glycol and NSAIDs ester prodrugs of rhein: Synthesis, hydroxyapatite affinity, stability, anti-inflammatory, ulcerogenicity index and pharmacokinetics studies. *Eur. J. Med. Chem.* **55**, 409-419 (2012).
2. Boileau, C., Tat, S.K., Pelletier, J.P., *et al.* Diacerein inhibits the synthesis of resorptive enzymes and reduces osteoclastic differentiation/survival in osteoarthritic subchondral bone: A possible mechanism for a protective effect against subchondral bone remodelling. *Arthritis Res. Ther.* **10**(3), R71 (2008).
3. Moldovan, F., Pelletier, J.P., Jolicoeur, F.C., *et al.* Diacerhein and rhein reduce the ICE-induced IL-1 $\beta$  and IL-18 activation in human osteoarthritic cartilage. *Osteoarthritis Cartilage* **8**(3), 186-196 (2000).
4. Tamura, T., Shirai, T., Kosaka, N., *et al.* Pharmacological studies of diacerein in animal models of inflammation, arthritis and bone resorption. *Eur. J. Pharmacol.* **448**(1), 81-87 (2002).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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