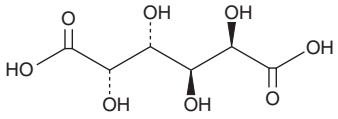
PRODUCT INFORMATION

Galactaric Acid

Item No. 36206

CAS Registry No.: 526-99-8
Synonyms: *meso*-Galactaric Acid, Mucic Acid, NSC 8127
MF: $C_6H_{20}O_8$
FW: 210.1
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Galactaric acid is supplied as a solid. A stock solution may be made by dissolving the galactaric acid in the solvent of choice, which should be purged with an inert gas. Galactaric acid is soluble in 1 M NaOH.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of galactaric acid can be prepared by directly dissolving the solid in aqueous buffers. The solubility of galactaric acid in PBS (pH 7.2) is approximately 1 mg/ml (sonicated). We do not recommend storing the aqueous solution for more than one day.

Description

Galactaric acid is a monosaccharide that has been found in grape musts and wine and an oxidized form of galacturonic acid.[2-4] Galactaric acid (5-10 µM) increases mRNA expression of *Runx2* in C3H/10T1/2 mouse mesenchymal stem cells.[1] It increases alkaline phosphatase (ALP) levels in, and mineralization of, C3H/10T1/2 cells when used in combination with gelatin as a coating on a 3D-poly (lactic acid) (PLA) scaffold at concentrations ranging from 10 to 20 µM.

References

1. Ashwin, B., Abinaya, B., Prasith, T.P., *et al.* 3D-poly (lactic acid) scaffolds coated with gelatin and mucic acid for bone tissue engineering. *Int. J. Biol. Macromol.* **162**, 523-532 (2020).
2. Barth, D. and Wiebe, M.G. Enhancing fungal production of galactaric acid. *Appl. Microbiol. Biotechnol.* **101(10)**, 4033-4040 (2017).
3. Rautiainen, S., Lehtinen, P., Chen, J., *et al.* Selective oxidation of uronic acids into aldaric acids over gold catalyst. *RSC Adv.* **25**, 19502-19507 (2015).
4. Žulj, M.M., Puhelek, I., Korenika, A.M.J., *et al.* Organic acid composition in Croatian predicate wines. *Agriculturae Conspectus Scientificus* **80**, 113-117 (2015).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM