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## Product Data Sheet

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Product Name: Mucic acid

Cat. No.: GC63084

### Chemical Properties

Cas. No. 526-99-8

Formula  $C_6H_{10}O_8$

M.Wt 210.14

Solubility DMSO : 25 mg/mL (118.97 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

### Background

Galactaric acid is a monosaccharide that has been found in grape musts and wine and an oxidized form of galacturonic acid.<sup>1,2,3</sup> Galactaric acid (5-10 μM) increases mRNA expression of *Runx2* in C3H/10T1/2 mouse mesenchymal stem cells.<sup>4</sup> 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.

1. Ulj, M.M., Puhelek, I., Korenika, A.M.J., et al. Organic acid composition in croatian predicate wines *Agriculturae Conspectus Scientificus* 80:113-117(2015)  
2. 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)  
3. Barth, D., and Wiebe, M.G. Enhancing fungal production of galactaric acid *Appl. Microbiol. Biotechnol.* 101(10):4033-4040(2017)  
4. 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)

**Caution: Product has not been fully validated for medical applications. For research use only.**

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