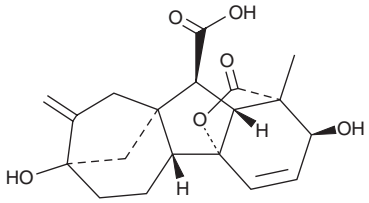
PRODUCT INFORMATION

Gibberellic Acid

Item No. 29322

CAS Registry No.: 77-06-5
Formal Name: (1α,2β,4aα,4bβ,10β)-2,4a,7-trihydroxy-1-methyl-8-methylene-gibb-3-ene-1,10-dicarboxylic acid, 1,4a-lactone
Synonyms: GA_3, Gibberellin A_3, (+)-Gibberellic Acid
MF: $C_{19}H_{22}O_6$
FW: 346.4
Purity: ≥90%
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

Gibberellic acid is supplied as a solid. A stock solution may be made by dissolving the gibberellic acid in the solvent of choice, which should be purged with an inert gas. Gibberellic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of gibberellic acid in ethanol and DMF is approximately 5 mg/ml and approximately 15 mg/ml in DMSO.

Gibberellic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, gibberellic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Gibberellic acid has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Gibberellic acid is a diterpene fungal metabolite and plant hormone that has been found in *Gibberella* and various plants.[1] It induces production of α-amylase to stimulate seed germination in cereal grains and stimulates photo- and skoto-morphogenesis and internode elongation in *Arabidopsis*. Gibberellic acid (150 µg per animal) increases testicular 3β-hydroxysteroid dehydrogenase (3β-HSD) and 17β-HSD activities and testosterone levels, markers of steroidogenesis, in rats.[2] Dietary administration of gibberellic acid (300 ppm) to pregnant rats increases hepatic malondialdehyde (MDA) levels, decreases catalase, superoxide dismutase (SOD), and glutathione peroxidase (GPX) activities, and reduces hepatic function in both the pregnant rats and their offspring.[3] Formulations containing gibberellic acid were previously used to enhance crop growth in agriculture.

References

1. Gupta, R. and Chakrabarty, S.K. Gibberellic acid in plant: Still a mystery unresolved. *Plant Signal. Behav.* **8(9)**, e25504 (2013).
2. Premalatha, R., Jubendradass, R., Srikumar, K., *et al.* Gibberellic acid acts as an agonist of steroidogenesis in male rats. *Andrologia* **46(8)**, 902-909 (2014).
3. Troudi, A., Mahjoubi Samet, A., and Zeghal, N. Hepatotoxicity induced by gibberellic acid in adult rats and their progeny. *Exp. Toxicol. Pathol.* **62(6)**, 637-642 (2010).

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