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**Product Data Sheet**

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Product Name: Bryonolic acid

Cat. No.: GC62878

**Chemical Properties**

Cas. No. 24480-45-3

Formula C<sub>30</sub>H<sub>48</sub>O<sub>3</sub>

M.Wt

456.7

Solubility

Storage

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**

Bryonolic acid is an active triterpenoid compound with immunomodulatory, anti-inflammatory, antioxidant and anticancer activities[1][2][3].

Bryonolic acid exerts anti-allergic activity by inhibiting homologous passive cutaneous anaphylaxis and delayed hypersensitivity. Bryonolic acid reduces nitric oxide by suppressing inducible nitric oxide synthase expression, indicating anti-inflammatory activity[1]. In rat adrenal pheochromocytoma (PC12) cells, Bryonolic acid against N-methyl-D-aspartate (NMDA)-induced neurotoxicity, indicating it as a candidate neuroprotective agent for cerebral ischemic treatment[1]. Bryonolic acid (1-200 μM) inhibits acyl-coA: cholesterol acyl transferase (ACAT) activity in rat liver microsomes in a concentration-dependent manner, blocking the biosynthesis of the cholesterol fatty acid ester tumour promoter. Bryonolic acid inhibits ACAT in intact cancer cells with an IC<sub>50</sub> of 12.6 μM[2]. Bryonolic acid inhibits both clonogenicity and invasiveness in MCF-7 MB-231, U87 and 3T3-EA cells[2].

Bryonolic acid (500 mg/kg; i.p.; once) potently induces HO-1 in a manner dependent on the Nrf2-Keap1 pathway[3].

[1]. Pornpatsorn Lertphadungkit, et al. Enhanced Production of Bryonolic Acid in

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

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Trichosanthes cucumerina L. (Thai Cultivar) Cell Cultures by Elicitors and Their Biological Activities. Plants (Basel). 2020 Jun 2;9(6):709.

[2]. Farid Khallouki, et al. Bryonolic Acid Blocks Cancer Cell Clonogenicity and Invasiveness through the Inhibition of Fatty Acid: Cholesteryl Ester Formation. Biomedicines. 2018 Feb 12;6(1):21.

[3]. Tonibelle N Gatbonton-Schwager , et al. Bryonolic acid transcriptional control of anti-inflammatory and antioxidant genes in macrophages in vitro and in vivo. J Nat Prod. 2012 Apr 27;75(4):591-8.

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