

# PRODUCT INFORMATION



## Saikosaponin D (hydrate)

Item No. 33156

**Formal Name:** (3 $\beta$ ,4 $\alpha$ ,16 $\alpha$ )-13,28-epoxy-16,23-dihydroxyolean-11-en-3-yl 6-deoxy-3-O- $\beta$ -D-glucopyranosyl- $\beta$ -D-galactopyranoside, hydrate

**MF:** C<sub>42</sub>H<sub>68</sub>O<sub>13</sub> • XH<sub>2</sub>O

**FW:** 781.0

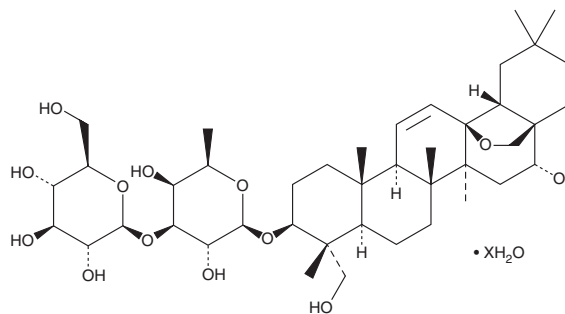
**Purity:**  $\geq$ 98%

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:**  $\geq$ 4 years

**Item Origin:** Plant/*Bupleuri radix*



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

### Laboratory Procedures

Saikosaponin D (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the saikosaponin D (hydrate) in the solvent of choice, which should be purged with an inert gas. Saikosaponin D (hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of saikosaponin D (hydrate) in these solvents is approximately 30 mg/ml.

### Description

Saikosaponin D is a triterpenoid saponin that has been found in *Bupleurum* roots and has diverse biological activities.<sup>1-3</sup> It inhibits the proliferation of, and induces apoptosis in, SW1736, ARO, and 8305C anaplastic thyroid cancer cells when used at concentrations ranging from 5 to 20  $\mu$ M.<sup>1</sup> Saikosaponin D (5, 10, and 20 mg/kg) reduces tumor weight and volume in an ARO mouse xenograft model. It reverses reductions in gut microbial diversity, reduces colonic inflammatory cell infiltration, mucosal thickening, and goblet cell depletion, and increases colon length in a mouse model of ulcerative colitis induced by dextran sulfate (DSS; Item No. 23250).<sup>2</sup> Saikosaponin D (1 mg/kg) decreases immobility time in the forced swim and tail suspension tests, as well as inhibits LPS-induced hippocampal microglial activation, in mice.<sup>3</sup>

### References

1. Liu, R.-Y. and Li, J.-P. Saikosaponin-d inhibits proliferation of human undifferentiated thyroid carcinoma cells through induction of apoptosis and cell cycle arrest. *Eur. Rev. Med. Pharmacol. Sci.* **18(17)**, 2435-2443 (2014).
2. Li, P., Wu, M., Xiong, W., et al. Saikosaponin-d ameliorates dextran sulfate sodium-induced colitis by suppressing NF- $\kappa$ B activation and modulating the gut microbiota in mice. *Int. Immunopharmacol.* **81**, 106288 (2020).
3. Su, J., Pan, Y.-W., Wang, S.-Q., et al. Saikosaponin-d attenuated lipopolysaccharide-induced depressive-like behaviors via inhibiting microglia activation and neuroinflammation. *Int. Immunopharmacol.* **80**, 106181 (2020).

#### 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.

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