

# PRODUCT INFORMATION

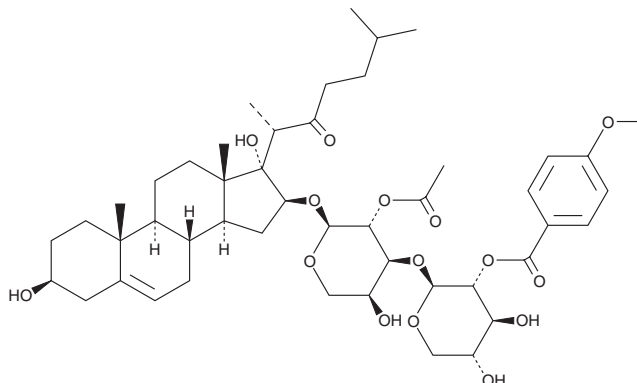


## OSW-1

Item No. 30310

**CAS Registry No.:** 145075-81-6  
**Formal Name:** (3 $\beta$ ,16 $\beta$ )-16-[[2-O-acetyl-3-O-[2-O-(4-methoxybenzoyl)- $\beta$ -D-xylopyranosyl]- $\alpha$ -L-arabinopyranosyl]oxy]-3,17-dihydroxy-cholest-5-en-22-one

**Synonym:** Orsaponin  
**MF:** C<sub>47</sub>H<sub>68</sub>O<sub>15</sub>  
**FW:** 873.0  
**Purity:**  $\geq$ 95%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 258 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years  
**Item Origin:** Synthetic



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

### Laboratory Procedures

OSW-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the OSW-1 in the solvent of choice, which should be purged with an inert gas. OSW-1 is soluble in the organic solvent methanol.

### Description

OSW-1 is a saponin that has been found in *O. saundersiae* and has antiviral and anticancer activities.<sup>1</sup> It is an inhibitor of oxysterol-binding protein (OSBP) and its paralog OSBP-related protein 4 (ORP4) with  $K_i$  values of 16 and 71 nM, respectively, in radioligand binding assays using HEK293T cell lysates.<sup>2</sup> It induces OSBP translocation from the cytoplasm to the *trans*-Golgi network and decreases intracellular levels of OSBP in HEK293 cells.<sup>2,3</sup> OSW-1 inhibits replication of a variety of enteroviruses ( $IC_{50}$ s = 2.4-9.4 nM), including replication of coxsackievirus B3 (CVB3) in infected HeLa R19 cells in an OSBP-dependent manner when used at a concentration of 3 nM.<sup>4</sup> It also inhibits replication of hepatitis C virus (HCV) but not mouse hepatitis virus (MHV), a coronavirus.<sup>5</sup> It protects against CVA9 and echovirus 2 infection in HeLa cells when used at a concentration of 10 nM.<sup>4</sup> OSW-1 inhibits growth of HeLa and HEK293 cells ( $GI_{50}$ s = 0.33 and 0.22 nM, respectively).<sup>2</sup>

### References

1. Mimaki, Y., Kuroda, M., Kameyama, A., *et al.* Cholestane glycosides with potent cytostatic activities on various tumor cells from *Ornithogalum saundersiae* bulbs. *Bioorg. Med. Chem. Lett.* **7**(5), 633-636 (1997).
2. Roberts, B.L., Severance, Z.C., Bensen, R.C., *et al.* Differing activities of oxysterol-binding protein (OSBP) targeting anti-viral compounds. *Antiviral Res.* **170**:104548 (2019).
3. Burgett, A.W.G., Poulsen, T.B., Wangkanont, K., *et al.* Natural products reveal cancer cell dependence on oxysterol-binding proteins. *Nat. Chem. Biol.* **7**(9), 639-647 (2011).
4. Albulescu, L., Strating, J.R., Thibaut, H.J., *et al.* Broad-range inhibition of enterovirus replication by OSW-1, a natural compound targeting OSBP. *Antiviral Res.* **117**, 110-114 (2015).
5. Strating, J.R.P.M., van der Linden, L., Albulescu, L., *et al.* Itraconazole inhibits enterovirus replication by targeting the oxysterol-binding protein. *Cell Rep.* **10**(4), 600-615 (2015).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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