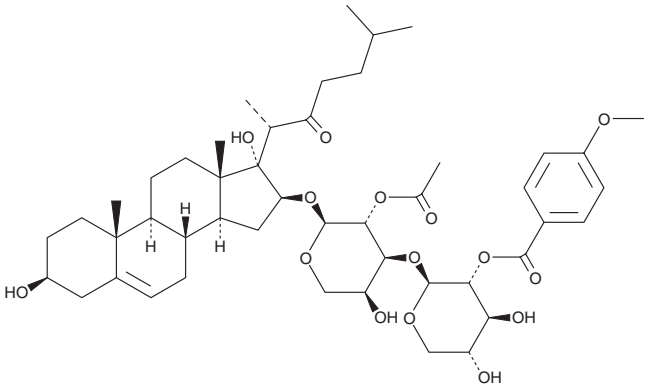
PRODUCT INFORMATION

OSW-1

Item No. 30310



CAS Registry No.:	145075-81-6
Formal Name:	(3β,16β)-16-[[2-O-acetyl-3-O-[2-O-(4-methoxybenzoyl)-β-D-xylopyranosyl]-α-L-arabinopyranosyl]oxy]-3,17-dihydroxy-cholest-5-en-22-one
Synonym:	Orsaponin
MF:	$C_{47}H_{68}O_{15}$
FW:	873.0
Purity:	≥95%
UV/Vis.:	λ_{max}: 258 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥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.[1] 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.[2] It induces OSBP translocalization from the cytoplasm to the *trans*-Golgi network and decreases intracellular levels of OSBP in HEK293 cells.[2,3] 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.[4] It also inhibits replication of hepatitis C virus (HCV) but not mouse hepatitis virus (MHV), a coronavirus.[5] It protects against CVA9 and echovirus 2 infection in HeLa cells when used at a concentration of 10 nM.[4] OSW-1 inhibits growth of HeLa and HEK293 cells (GI_{50}s = 0.33 and 0.22 nM, respectively).[2]

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM