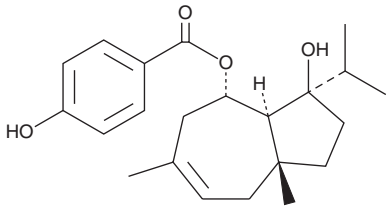
PRODUCT INFORMATION

Ferutinin

Item No. 16554

CAS Registry No.:	41743-44-6
Formal Name:	4-hydroxy-benzoic acid, (3R,3aS,4S,8aR)-1,2,3,3a,4,5,8,8a-octahydro-3-hydroxy-6,8a-dimethyl-3-(1-methylethyl)-4-azulenyl ester
MF:	$C_{22}H_{30}O_4$
FW:	358.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 260 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Semi-synthetic



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

Laboratory Procedures

Ferutinin is supplied as a solid. A stock solution may be made by dissolving the ferutinin in the solvent of choice, which should be purged with an inert gas. Ferutinin is soluble in DMSO.

Description

Ferutinin is a plant-derived ester of a sesquiterpenic alcohol that acts as an agonist for estrogen receptor (ER) α (IC_{50} = 33.1 nM) and an agonist/antagonist for ERβ (IC_{50} = 180.5 nM).[1] It also demonstrates ionophoretic properties, increasing calcium permeability of lipid bilayer membranes, mitochondria, thymocytes, sarcoplasmic reticulum, and liposomes at a concentration range of 1-50 µM.[2-4] Ferutinin is cytotoxic to MCF-7 breast and TCC bladder cancer cells as well as human foreskin HFF3 fibroblasts (IC_{50}s = 29, 24, and 36 µg/ml *in vitro* after 72 hours of exposure).[3]

References

1. Ikeda, K., Arao, Y., Otsuka, H., *et al.* Terpenoids found in the Umbelliferae family act as agonists/antagonists for ERα and ERβ: Differential transcription activity between ferutinine-liganded ERα and ERβ. *Biochem. Biophys. Res. Commun.* **291(2)**, 354-360 (2002).
2. Abramov, A.Y., Zamaraeva, M.V., Hagelgans, A.I., *et al.* Influence of plant terpenoids on the permeability of mitochondria and lipid bilayers. *Biochim. Biophys. Acta* **1512(1)**, 98-110 (2001).
3. Matin, M.M., Nakhaeizadeh, H., Bahrami, A.R., *et al.* Ferutinin, an apoptosis inducing terpenoid from *Ferula ovina*. *Asian Pac. J. Cancer Prev.* **15(5)**, 2123-2128 (2014).
4. Zamaraeva, M.V., Charishnikova, O., Saidkhodjaev, A., *et al.* Calcium mobilization by the plant estrogen ferutinin does not induce blood platelet aggregation. *Pharmacol. Rep.* **62(6)**, 1117-1126 (2010).

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