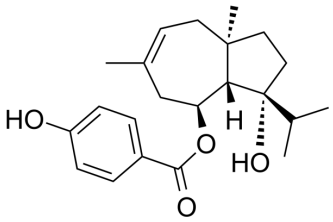
Ferutinin

Cat. No.:	HY-125703
CAS No.:	41743-44-6
Molecular Formula:	$C_{22}H_{30}O_4$
Molecular Weight:	358.47
Target:	Estrogen Receptor/ERR; Apoptosis
Pathway:	Others; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Ferutinin, a natural terpenoid compound, is an estrogen receptor ERα agonist and estrogen ERβ-receptor agonist/antagonist with IC_{50}s of 33.1 nM and 180.5 nM, respectively. Ferutinin acts as an electrogenic Ca^{2+}-ionophore that increases calcium permeability of lipid bilayer membranes, mitochondria. Ferutinin possesses estrogenic, antitumor, antibacterial and antiinflammatory activities[1][2].	
IC_{50} & Target	ERα 33.1 nM (IC_{50})	ERβ 180.5 nM (IC_{50})
In Vitro	Ferutinin manifested antiproliferative activity, inducing apoptosis in several cell types: MCF-7 estrogen-dependent cancer cells, leukemia T-cell line (Jurkat), human and mouse colon carcinoma cells (Caco-2, CT26, HT29), as well as bladder (TCC) cancer cells. Ferutinin potentiates bone mineralization, and is proposed to be used as an antiosteoporosis phytoestrogen[2]. Ferutinin considerably increases the permeability of artificial and cellular membranes to Ca^{2+}-ions and produces apoptotic cell death in different cell lines in a mitochondria-dependent manner. Ferutinin alone (10-60 μM) also dose-dependently dissipated membrane potential. In the presence of Ca^{2+}-ions, Ferutinin (10-60 μM) induces considerable depolarization of the inner mitochondrial membrane[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Kazuhiro Ikeda, et al. Terpenoids found in the umbelliferae family act as agonists/antagonists for ER(alpha) and ERbeta: differential transcription activity between ferutinine-liganded ER(alpha) and ERbeta. Biochem Biophys Res Commun. 2002 Feb 22;291(2):354-60.

[2]. Tatsiana Ilyich, et al. Ferutinin Induces Membrane Depolarization, Permeability Transition Pore Formation, and Respiration Uncoupling in Isolated Rat Liver Mitochondria by Stimulation of Ca 2+-Permeability. J Membr Biol. 2018 Aug;251(4):563-572.

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

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