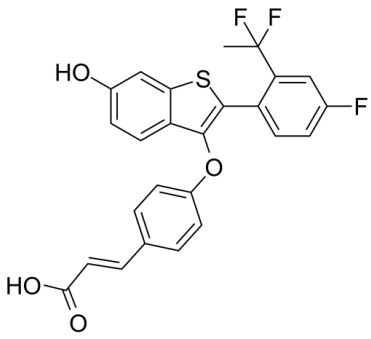
Data Sheet

Product Name:	LSZ-102
Cat. No.:	CS-0042193
CAS No.:	2135600-76-7
Molecular Formula:	C25H17F3O4S
Molecular Weight:	470.46
Target:	Estrogen Receptor/ERR
Pathway:	Others
Solubility:	H2O : < 0.1 mg/mL (insoluble); DMSO : 100 mg/mL (212.56 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

LSZ-102 is a potent, orally bioavailable selective **estrogen receptor** degrader with an **IC_{50}** of 0.2 nM. IC50 & Target: estrogen receptor [1] **In Vitro:** LSZ-102 is a potent, orally bioavailable selective estrogen receptor degrader with an IC_{50} of 0.2 nM and currently in Phase I/Ib trials for the treatment of ERα positive breast cancer. LSZ-102 induces significant degradation of ERα after 24 h, when given as a 10 μM solution to MCF-7 cells. Robust inhibition of cell proliferation in MCF-7 cells is observed upon incubation with LSZ-102 with a half inhibitory concentration of 1.7 nM. Results demonstrate that LSZ-102 effectively inhibits the estrogen-induced activation of the ERE-luciferase reporter using charcoal-stripped serum treated with E2 with IC_{50} of 0.3 nM[1]. **In Vivo:** Treatment of the mice with LSZ-102 once daily at 20 mg/kg results in significant tumor growth inhibition as compare to the control group treated with vehicle alone, resulting in tumor stasis (mean change in tumor volume of LSZ-102 vs control=%ΔT/ΔC of 2.4% on day 48, p<0.05). Dosing of 3 mg/kg solution of LSZ-102 in male Sprague-Dawley rats results in 33% bioavailability and a dose-normalized exposure of 620 nM•h[1].

PROTOCOL (Extracted from published papers and Only for reference)

Kinase Assay: [1]Growth factors depleted MCF-7 ERE-luc cells are used and seeded (10 000 cells/well) in 96-well plates in CSS medium. After overnight incubation, cells are treated with **LSZ-102** in the presence of estradiol (0.1 nM) for 24 h. Cells are then lysed and quantified for luciferase activity using Bright-Glo assay[1]. **Animal Administration:** [1]Female athymic nude **mice** are used for tumor xenograft studies. MCF-7 cells are subcutaneously injected (200 μL/animal) in the right axillary mammary fat pad area. Tumor volume and body weights are measured twice weekly. When tumors reach an average volume of ~200 mm^3, mice are randomized into different groups. Animals are orally administered vehicle alone or **20 mg/kg LSZ-102 daily** or 60 mg/kg tamoxifen 5 days per week[1].

References:

[1]. Tria GS, et al. Discovery of LSZ102, a Potent, Orally Bioavailable Selective Estrogen Receptor Degrader (SERD) for the Treatment of Estrogen Receptor Positive Breast Cancer. J Med Chem. 2018 Apr 12;61(7):2837-2864.

CAIndexNames:

2-Propenoic acid, 3-[4-[[2-[2-(1,1-difluoroethyl)-4-fluorophenyl]-6-hydroxybenzo[b]thien-3-yl]oxy]phenyl]-, (2E)-

SMILES:

O=C(O)/C=C/C1=CC=C(OC2=C(C3=CC=C(F)C=C3C(F)(F)C)SC4=CC(O)=CC=C42)C=C1

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

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