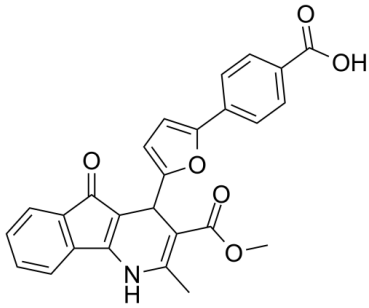
Data Sheet

Product Name:	Sortin1
Cat. No.:	CS-4207
CAS No.:	503837-98-7
Molecular Formula:	C26H19NO6
Molecular Weight:	441.43
Target:	Others
Pathway:	Others
Solubility:	DMSO : 100 mg/mL (226.54 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Sortin1 is a chemical genetic-hit molecule that causes specific mislocalization of plant and yeast-soluble and membrane vacuolar markers. IC50 value: Target: Vacuolar markers in vitro: In Arabidopsis seedlings, application of Sortin1 and -2 led to reversible defects in vacuole biogenesis and root development. Sortin1 was found to redirect the vacuolar destination of plant carboxypeptidase Y and other proteins in Arabidopsis suspension cells and cause these proteins to be secreted. Sortin1 treatment of whole Arabidopsis seedlings also resulted in carboxypeptidase Y secretion, indicating that the drug has a similar mode of action in cells and intact plants [1]. Structure-activity relationship studies conducted in Arabidopsis revealed the structural requirements for Sortin1 bioactivity and demonstrated that overlapping Sortin1 substructures can be used to discriminate between vacuolar-flavonoid accumulations and vacuolar-biogenesis defects [2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [1] Briefly, 1.2 ml of 4- to 5-day-old cells were distributed into 12-well microtiter plates and incubated with 132 µCi (1 Ci = 37 GBq) of Expre35S35S label (Perkin–Elmer) on an orbital shaker at 100 rpm. After 15 h, labeled proteins were chased by adding unlabeled methionine and cysteine to a concentration of 5 mM and 2.5 mM per well, respectively, and the cells were supplemented with either drug in DMSO (at 25 mg/liter, 57 µM) or DMSO (control). At the time points indicated, cells were pelleted by centrifugation for 30 s at 15,000 × g. The growth media were then subjected to immunoprecipitation as described in refs. 23 and 24 by using anti-AtCPY antibodies (22) and fractionated by SDS/PAGE, treated with a scintillant (Fluoro-Hance, Research Product International, Mount Prospect, IL), and fluorographed for 10 days.

References:

[1]. Zouhar J, et al. Sorting inhibitors (Sortins): Chemical compounds to study vacuolar sorting in Arabidopsis. Proc Natl Acad Sci U S A. 2004 Jun 22;101(25):9497-501.

[2]. Rosado A, et al. Sortin1-hypersensitive mutants link vacuolar-trafficking defects and flavonoid metabolism in Arabidopsis vegetative tissues. Chem Biol. 2011 Feb 25;18(2):187-97.

[3]. Orr DJ, et al. 1H NMR-based metabolomics methods for chemical genomics experiments. Methods Mol Biol. 2014;1056:225-39.

CAIndexNames:

1H-Indeno[1,2-b]pyridine-3-carboxylic acid, 4-[5-(4-carboxyphenyl)-2-furanyl]-4,5-dihydro-2-methyl-5-oxo-, 3-methyl ester

SMILES:

O=C(C1=C(C)NC2=C(C(C3=C2C=CC=C3)=O)C1C4=CC=C(C5=CC=C(C(O)=O)C=C5)O4)OC

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

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