

Product Data Sheet

Product Name: trans-Resveratrol-d₄

Cat. No.: GC48194

Chemical Properties

Cas. No. 1089051-56-8

SMILES Oc1ccc(cc1)\C=C/c1cc(O)cc(O)c1

Formula C₁₄H₈D₄O₃

M.Wt 232.3

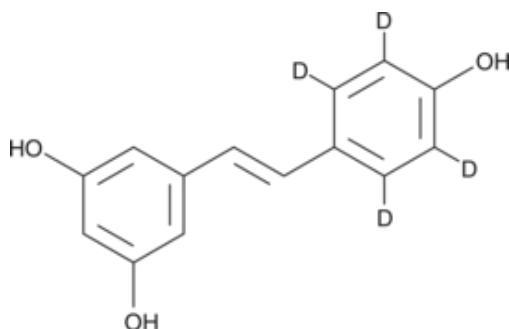
Solubility DMF: >100 mg/ml, DMSO: >50mg/ml, Ethanol: >50mg/ml, PBS (pH 7.2): <100 µg/ml

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

trans-Resveratrol-d₄ is intended for use as an internal standard for the quantification of *trans*-resveratrol by GC- or LC-MS. *trans*-Resveratrol is a polyphenolic phytoalexin found in a variety of plants, including grapes, that has anti-inflammatory, antioxidant, and anticancer activities.^{1,2} It inhibits the cyclooxygenase and hydroperoxidase activities of COX-1 (EC₅₀s = 15 and 3.7 µM, respectively), but not COX-2 (EC₅₀s = >100 µM and 85 µM, respectively).¹ *trans*-Resveratrol (3 and 8 mg/kg) inhibits carrageenan-induced paw edema in mice. It inhibits free radical formation in HL-60 human promyelocytic leukemia cells induced by phorbol 12-myristate 13-acetate. *trans*-Resveratrol

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

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(1-25 μ mol) reduces both the incidence and number of tumors in a two-stage mouse model of skin cancer induced by TPA and 7,12-dimethyl-benz[a]anthracene (DMBA). *trans*-Resveratrol (200 μ M) also activates sirtuin 1 (SIRT1) by 8-fold *in vitro* and inhibits a variety of targets including ERK1, JNK1, Src, PKC α , aromatase/CYP19, and DNA polymerases α and δ (IC_{50} s = 37, 50, 20, <10, 25, 3.3, and 5 μ M, respectively) *in vitro* and/or *ex vivo*.^{3,2} It prolongs lifespan in model organisms including *C. elegans*, *D. melanogaster*, and mice.²

1.Jang, M., Cai, L., Udeani, G.O., et al.Cancer chemopreventive activity of resveratrol, a natural product derived from grapesScience275(5297)218-220(1997) 2.Pirola, L., and FrÖjdÖ, S.Resveratrol: One molecule, many targetsIUBMB Life60(5)323-332(2008) 3.Borra, M.T., Smith, B.C., and Denu, J.M.Mechanism of human SIRT1 activation by resveratrolJ. Biol. Chem.280(17)17187-17195(2005)

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