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Zuschläge

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- Trockeneiszuschlag
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- Expressversand

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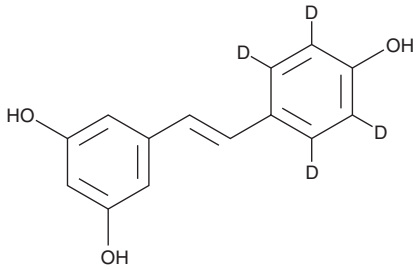
PRODUCT INFORMATION

trans-Resveratrol-d_4

Item No. 13130

CAS Registry No.:	1089051-56-8
Formal Name:	5-[(1E)-2-(4-hydroxyphenyl)ethenyl]-1,3-benzenediol-2,3,5,6-d_4
Synonym:	(E)-Resveratrol-d_4
MF:	$C_{14}H_8D_4O_3$
FW:	232.3
Chemical Purity:	≥98% (*trans*-resveratrol)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
UV/Vis.:	λ_{max}: 307, 320 nm
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

trans-Resveratrol-d_4 is intended for use as an internal standard for the quantification of *trans*-resveratrol (Item No. 70675) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

trans-Resveratrol-d_4 is supplied as a solution in ethanol. To change the solvent, simply evaporate the *trans*-resveratrol-d_4 under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of *trans*-resveratrol-d_4 in ethanol and DMSO is approximately 50 mg/ml and approximately 100 mg/ml in DMF.

Description

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 (EC_{50}s = 15 and 3.7 µM, respectively), but not COX-2 (EC_{50}s = >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 (TPA; Item No. 10008014; EC_{50} = 27 µM). *trans*-Resveratrol (1-25 µmol) 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 µM) also activates sirtuin 1 (SIRT1) by 8-fold *in vitro* and inhibits a variety of targets including ERK1, JNK1, Src, PKCα, aromatase/CYP19, and DNA polymerases α and δ (IC_{50}s = 37, 50, 20, <10, 25, 3.3, and 5 µM, respectively) *in vitro* and/or *ex vivo*.[2,3] It prolongs lifespan in model organisms including *C. elegans*, *D. melanogaster*, and mice.[2]

References

1. Jang, M., Cai, L., Udeani, G.O., *et al. Science* **275(5297)**, 218-220 (1997).
2. Pirola, L. and Fröjdö, S. *IUMBM Life* **60(5)**, 323-332 (2008).
3. Borra, M.T., Smith, B.C., and Denu, J.M. *J. Biol. Chem.* **280(17)**, 17187-17195 (2005).

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