

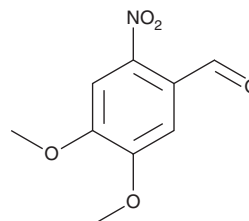
PRODUCT INFORMATION



6-Nitroveratraldehyde

Item No. 23364

CAS Registry No.: 20357-25-9
Formal Name: 4,5-dimethoxy-2-nitro-benzaldehyde
Synonyms: DMNB, NSC 65590
MF: C₉H₉NO₅
FW: 211.2
Purity: ≥98%
UV/Vis.: λ_{max}: 224, 262, 310 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

6-Nitroveratraldehyde is supplied as a crystalline solid. A stock solution may be made by dissolving the 6-nitroveratraldehyde in the solvent of choice, which should be purged with an inert gas. 6-Nitroveratraldehyde is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 6-nitroveratraldehyde in ethanol is approximately 0.2 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Description

6-Nitroveratraldehyde is a photolabile H⁺-donor that releases acid when excited at 405 nm.¹ It has been used for fluorescence imaging, in conjunction with the pH sensitive fluorescent probe cSNARF1, to study nuclear proton dynamics, acid venting from cancer cells, and hemoglobin-restricted diffusion in the cytoplasm of red blood cells.¹⁻³ 6-Nitroveratraldehyde has also been used as a precursor for [¹⁸F]fluoride displacement reactions in the synthesis of NCA 6-[¹⁸F]fluoro-L-dopa that is used in positron emission tomography (PET) studies of dopaminergic systems.⁴

References

1. Hulikova, A. and Swietach, P. Nuclear proton dynamics and interactions with calcium signaling *J. Mol. Cell. Cardiol.* **96**, 26-37 (2016).
2. Richardson, S.L. and Swietach, P. Red blood cell thickness is evolutionarily constrained by slow, hemoglobin-restricted diffusion in cytoplasm. *Sci. Rep.* **6:36018**, 1-11 (2016).
3. Hulikova, A., Black, N., Hsia, L.T., et al. Stromal uptake and transmission of acid is a pathway for venting cancer cell-generated acid. *Proc. Natl. Acad. Sci. U.S.A.* **113(36)**, 344-353 (2016).
4. Reddy, G.N., Haerberli, M., Beer, H.-F., et al. An improved synthesis of no-carrier-added (NCA) 6-[¹⁸F] Fluoro-L-DOPA and its remote routine production for PET investigations of dopaminergic systems. *Appl. Radiat. Isot.* **44(4)**, 645-649 (1993).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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