Product Information

NO-Aspirin 1
Catalog No. 10005854

CAS Registry No.: 175033-36-0
Formal Name: 2-(acetyloxy)-3-[(nitrooxy)methyl]phenyl ester, benzoic acid

Synonym: NO-Aspirin

MF: C_{16}H_{13}NO_{7}
FW: 331.3
Purity: ≥97%

Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures

For long term storage, we suggest that NO-aspirin 1 be stored as supplied at -20°C. It should be stable for at least two years.

NO-aspirin 1 is supplied as a crystalline solid. A stock solution may be made by dissolving the NO-aspirin 1 in an organic solvent purged with an inert gas. NO-aspirin 1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of NO-aspirin 1 in these solvents is approximately 2.5, 30, and 50 mg/ml, respectively.

NO-aspirin 1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NO-aspirin 1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. NO-aspirin 1 has a solubility of approximately 0.5 mg/ml in a 1:6 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

NO-aspirin 1 is a hybrid molecule of aspirin and a nitric oxide (NO) donor. This drug design combines the anti-inflammatory properties of a non-steroidal anti-inflammatory drug (NSAID) with the gastrointestinal protective effects of NO. NO-aspirin 1 contains an ester linkage, that when cleaved by esterases in the gut, liver, and plasma releases salicylate and an NO-releasing moiety. Following esterase cleavage, NO is released slowly over several hours with no observed decrease in systemic arterial blood pressure. In addition to anti-inflammatory and analgesic activity, NO-aspirin also prevents restenosis, inhibits proliferation of vascular smooth muscle cells, reduces infarct size following cardiac ischemia, and exhibits strong chemopreventative effects against colon cancer development.

References


Related Products

Aspirin - Cat. No. 70260 • 5-Aminosalicylic Acid - Cat. No. 70265 • Indomethacin - Cat. No. 70270 • (±)-Ibuprofen - Cat. No. 70280 • NO-Indomethacin - Cat. No. 10005705 • NO-Ibuprofen - Cat. No. 10005706 • NO-Aspirin 2 - Cat. No. 10005856 • NO-Flurbiprofen - Cat. No. 10005857

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, you must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which exceed beyond the description of the chemicals herewith. Cayman warrants only to the original customer that the material will meet our specifications in the state of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

In the event of non-integer acts or negligence of Cayman, its directors or its employees.

Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

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For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

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