

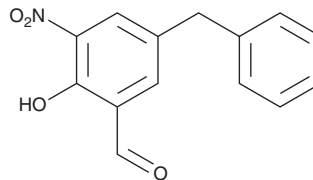
PRODUCT INFORMATION



Col003

Item No. 39528

CAS Registry No.: 328565-16-8
Formal Name: 2-hydroxy-3-nitro-5-(phenylmethyl)-benzaldehyde
MF: C₁₄H₁₁NO₄
FW: 257.2
Purity: ≥95%
Supplied as: A 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

Col003 is supplied as a solid. A stock solution may be made by dissolving the Col003 in the solvent of choice, which should be purged with an inert gas. Col003 is soluble in methanol and DMSO.

Description

Col003 is an inhibitor of the protein-protein interaction between collagen and heat shock protein 47 (Hsp47; IC₅₀ = 1.8 μM).¹ It decreases procollagen secretion from, and reduces the collagen levels in the extracellular matrix (ECM) of, primary mouse embryonic fibroblasts (MEFs) when used at a concentration of 100 μM. Col003 is also an inhibitor of penicillin-binding protein 2 (PBP2; IC₅₀ = 128 μM) and decreases the growth of wild-type, penicillin-resistant, and penicillin- and cephalosporin-resistant *N. gonorrhoea* strains (MIC₅₀ = 4, 8, 16 μg/ml, respectively).² It reduces collagen-induced, but not arachidonic acid- or thrombin-induced, isolated rat platelet aggregation when used at a concentration of 50 μM.³ Col003 (50 μM) increases the time to occlusion induced by ferric chloride in carotid arteries in rats. *In vivo*, Col003 (50 μM) reduces brain infarct area and cell death, as well as improves grip strength, in a rat model of ischemia-reperfusion injury induced by middle cerebral artery occlusion (MCAO).

References

1. Ito, S., Ogawa, K., Takeuchi, K., *et al.* A small-molecule compound inhibits a collagen-specific molecular chaperone and could represent a potential remedy for fibrosis. *J. Biol. Chem.* **292(49)**, 20076-20085 (2017).
2. Fedarovich, A., Djordjevic, K.A., Swanson, S.M., *et al.* High-throughput screening for novel inhibitors of *Neisseria gonorrhoeae* penicillin-binding protein 2. *PLoS One* **7(9)**, e44918 (2012).
3. Wu, S., Liang, C., Xie, X., *et al.* Hsp47 inhibitor Col003 attenuates collagen-induced platelet activation and cerebral ischemic-reperfusion injury in rats. *Front. Pharmacol.* **12:792263**, (2022).

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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