

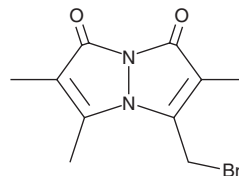
PRODUCT INFORMATION



Monobromobimane

Item No. 17097

CAS Registry No.: 71418-44-5
Formal Name: 3-(bromomethyl)-2,5,6-trimethyl-1H,7H-pyrazolo[1,2-a]pyrazole-1,7-dione
Synonyms: MBBr, NSC 608544
MF: C₁₀H₁₁BrN₂O₂
FW: 271.1
Purity: ≥98%
UV/Vis.: λ_{max}: 247, 383 nm
Ex./Em. Max: 398/490 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

Monobromobimane is supplied as a crystalline solid. A stock solution may be made by dissolving the monobromobimane in the solvent of choice, which should be purged with an inert gas. Monobromobimane is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of monobromobimane in ethanol is approximately 1 mg/ml and approximately 50 mg/ml in DMSO and DMF.

Description

Monobromobimane is a thiol-reactive fluorogenic probe. It is cell-permeable, reacts rapidly at physiological pH with available thiol groups, and generates a stable fluorescent signal.¹ Monobromobimane can be used to evaluate or quantify a variety of compounds containing reactive sulfur or thiol groups, including H₂S, glutathione, proteins, and nucleotides.²⁻⁴ The absorption and emission maxima for monobromobimane are 398 and 490 nm, respectively.⁶

References

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2. Klingerman, C.M., Trushin, N., Prokopczyk, B., *et al.* H₂S concentrations in the arterial blood during H₂S administration in relation to its toxicity and effects on breathing. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* **305(6)**, R630-R638 (2013).
3. Rice, G.C., Bump, E.A., Shrieve, D.C., *et al.* Quantitative analysis of cellular glutathione by flow cytometry utilizing monochlorobimane: Some applications to radiation and drug resistance *in vitro* and *in vivo*. *Cancer Res.* **46(12 Pt 1)**, 6105-6110 (1986).
4. Chen, Y.T., Collins, T.R.L., Guan, A., *et al.* Probing conformational changes in human DNA topoisomerase IIα by pulsed alkylation mass spectrometry. *J. Biol. Chem.* **287(30)**, 25660-25668 (2012).
5. Cosstick, R., McLaughlin, L.W., and Eckstein, F. Fluorescent labelling of tRNA and oligodeoxynucleotides using T4 RNA ligase. *Nucleic Acids Res.* **12(4)**, 1791-1810 (2015).
6. Sabnis, R.W. *Handbook of biological dyes and stains: Synthesis and industrial applications*. 1st edition, John Wiley & Sons, Inc., Madison, NJ (2010).

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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