

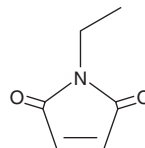
PRODUCT INFORMATION



N-Ethylmaleimide

Item No. 19938

CAS Registry No.: 128-53-0
Formal Name: 1-ethyl-1H-pyrrole-2,5-dione
Synonyms: NEM, NSC 7638
MF: $C_6H_7NO_2$
FW: 125.1
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 218 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

N-Ethylmaleimide is supplied as a crystalline solid. A stock solution may be made by dissolving the N-ethylmaleimide in the solvent of choice, which should be purged with an inert gas. N-Ethylmaleimide is soluble in the organic solvent chloroform.

Description

N-Ethylmaleimide is a modifier of sulfhydryl groups in proteins.^{1,2} It has commonly been used to inactivate cysteine-containing enzymes *in vitro*. N-Ethylmaleimide inhibits prolyl endopeptidase with an IC_{50} value of $6.3 \mu\text{M}$.³ It alkylates cysteine 519 (Cys⁵¹⁹) in voltage-gated potassium channel 7.4 ($K_{v7.4}$) and activates $K_{v7.2}$, $K_{v7.4}$, and $K_{v7.5}$, but not $K_{v7.3}$, in CHO cells expressing the human channels when used at a concentration of $50 \mu\text{M}$.⁴

References

1. Kawakita, M. and Yamashita, T. Reactive sulfhydryl groups of sarcoplasmic reticulum ATPase. III. Identification of cysteine residues whose modification with N-ethylmaleimide leads to loss of the Ca^{2+} -transporting activity. *J. Biochem.* **102**(1), 103-109 (1987).
2. Fatania, H.R., al-Nassar, K.E., and Thomas, N. Chemical modification of rat liver cytosolic NADP⁺-linked isocitrate dehydrogenase by N-ethylmaleimide. Evidence for essential sulphhydryl groups. *FEBS Lett.* **322**(3), 245-248 (1993).
3. Moriyama, A., Nakanishi, M., and Sasaki, M. Porcine muscle prolyl endopeptidase and its endogenous substrates. *J. Biochem.* **104**(1), 112-117 (1988).
4. Li, Y., Gamper, N., and Shapiro, M.S. Single-channel analysis of KCNQ K⁺ channels reveals the mechanism of augmentation by a cysteine-modifying reagent. *J. Neurosci.* **24**(22), 5079-5090 (2004).

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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