

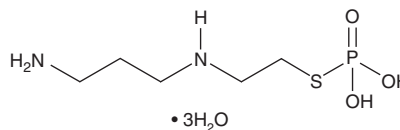
PRODUCT INFORMATION



Amifostine (hydrate)

Item No. 14398

CAS Registry No.: 112901-68-5
Formal Name: 2-[(3-aminopropyl)amino]-ethanethiol, 1-(dihydrogen phosphate), trihydrate
Synonyms: Ethiol, WR 2721
MF: $C_5H_{15}N_2O_3PS \cdot 3H_2O$
FW: 268.3
Purity: $\geq 95\%$
Supplied as: A crystalline solid
Storage: $-20^\circ C$
Stability: ≥ 4 years



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

Laboratory Procedures

Amifostine (hydrate) is supplied as a crystalline solid. Aqueous solutions of amifostine (hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of amifostine (hydrate) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Amifostine is a prodrug that through dephosphorylation by alkaline phosphatase is converted to an active thiol, WR 1065 that has free radical scavenging, DNA protective, and hypoxia inducing activities.¹ Because of the differential expression of alkaline phosphatase in normal versus neoplastic tissues, the cytoprotection conferred by amifostine is selective, enabling as much as 100-fold greater accumulation of WR 1065 in normal tissues than in tumor cells.¹ Amifostine has been used to reduce toxicity in normal tissues exposed to radiation or chemotherapeutic agents.¹ In mouse fibroblasts and various cancer cells, amifostine ($IC_{50} = 4$ mM) has been shown to activate p53 protein, to induce the expression of the cyclin-dependent kinase inhibitor p21, and to arrest cells at the G1/S transition through a p53-dependent mechanism.²

References

1. Kouvaris, J.R., Kouloulis, V.E., and Vlahos, L.J. Amifostine: The first selective-target and broad-spectrum radioprotector. *Oncologist* **12**(6), 738-747 (2007).
2. Lee, E.J., Gerhold, M., Palmer, M.W., et al. p53 protein regulates the effects of amifostine on apoptosis, cell cycle progression, and cytoprotection. *Br. J. Cancer* **88**(5), 754-759 (2003).

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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