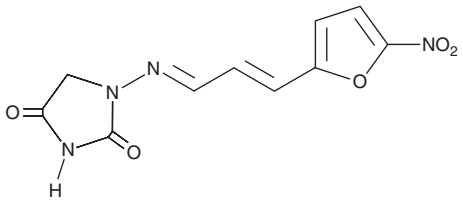
PRODUCT INFORMATION

Furagin

Item No. 46281

CAS Registry No.:	1672-88-4
Formal Name:	1-[[3-(5-nitro-2-furanyl)-2-propen-1-ylidene]amino]-2,4-imidazolidinedione
Synonyms:	Furazidin, Furazidine
MF:	$C_{10}H_8N_4O_5$
FW:	264.2
Purity:	≥98%
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

Furagin is supplied as a solid. A stock solution may be made by dissolving the furagin in the solvent of choice, which should be purged with an inert gas. Furagin is soluble (≥10 mg/ml) in DMSO.

Description

Furagin is a nitrofuran antibiotic and inhibitor of carbonic anhydrase IX (CAIX) and CAXII (K_is = 260 and 57 nM, respectively).[1,2] It is selective for CAIX and CAXII over CAI and CAII (K_is = >100 and 9.6 µM, respectively).[2] Furagin is active against *S. aureus* and *B. mycoides*.[1] It is cytotoxic to *E. coli* WP2 uvrA (LD_{50} = 14 µM), a strain that lacks uvr-dependent excision repair capability, and induces mutations in the same strain at a frequency of 130 per 10^6 survivors when used at a concentration corresponding to its LD_{50} value.[3] Formulations containing furagin have been used in the treatment of lower urinary tract infections.

References

1. Lukevits, É. and Demicheva, L. Biological activity of furan derivatives (review). *Chem. Heterocycl. Compd.* **29**, 243–267 (1993).
2. Pustenko, A., Nocentini, A., Gratteri, P., *et al.* The antibiotic furagin and its derivatives are isoform-selective human carbonic anhydrase inhibitors. *J. Enzyme Inhib. Med. Chem.* **35(1)**, 1011-1020 (2020).
3. Lu, C., McCalla, D.R., and Bryant, D.W. Action of nitrofurans on *E. coli*: Mutation and induction and repair of daughter-strand gaps in DNA. *Mutat. Res.* **67(2)**, 133-144 (1979).

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.

WARRANTY AND LIMITATION OF REMEDY
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