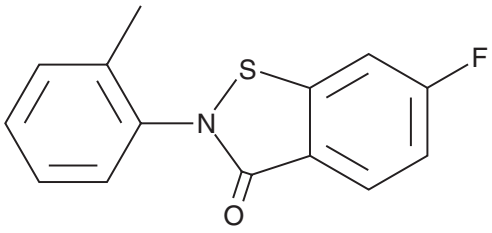
PRODUCT INFORMATION

NOX Inhibitor VII

Item No. 46371

CAS Registry No.:	727664-79-1
Formal Name:	6-fluoro-2-(2-methylphenyl)-1,2-benzisothiazol-3(2H)-one
Synonyms:	NADPH Oxidase Inhibitor VII, Thr101
MF:	$C_{14}H_{10}FNOS$
FW:	259.3
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

NOX inhibitor VII is supplied as a solid. A stock solution may be made by dissolving the NOX inhibitor VII in the solvent of choice, which should be purged with an inert gas. NOX inhibitor VII is sparingly soluble (1-10 mg/ml) in chloroform and DMSO.

Description

NOX inhibitor VII is an inhibitor of NADPH oxidase 2 (NOX2; EC_{50} = 0.3 µM in PMA-stimulated neutrophils) and RNase H2 (IC_{50} = 0.01 µM).[1,2] It is selective for NOX2 over NOX1, NOX4, and NOX5 (EC_{50}s = 3, 8, and 8 µM, respectively, in cell-based assays) and for RNase H2 over RNase H1 (IC_{50} = 2 µM). However, NOX inhibitor VII also inhibits phosphomannose isomerase and several histone deacetylases (HDACs; IC_{50}s = 2.9 and 0.66-6.07 µM, respectively) and, to a lesser extent, the tautomerase activity of macrophage migration inhibitory factor (MIF; IC_{50} = 62 µM).[3-5] NOX inhibitor VII (2.5 µM) is selectively cytotoxic to MDA-MB-231 and BT-549 breast cancer cells over non-cancerous MCF-10A breast epithelial cells, and it induces apoptosis and DNA damage in MDA-MB-231 cells.[6] It enhances programmed cell death protein 1 (PD-1) antibody-induced decreases in tumor volume and increases in intratumoral T cell infiltration in an immunocompetent syngeneic T11 murine model of triple-negative breast cancer (TNBC).

References

1. Smith, S.M., Min, J., Ganesh, T., *et al.* Ebselen and congeners inhibit NADPH oxidase 2-dependent superoxide generation by interrupting the binding of regulatory subunits. *Chem. Biol.* **19(6)**, 752-763 (2012).
2. White, R., Saxty, B., Large, J., *et al.* Identification of small-molecule inhibitors of the ribonuclease H2 enzyme. *J. Biomol. Screen.* **18(5)**, 610-620 (2013).
3. Dahl, R., Bravo, Y., Sharma, V., *et al.* Potent, selective, and orally available benzoisothiazolone phosphomannose isomerase inhibitors as probes for congenital disorder of glycosylation Ia. *J. Med. Chem.* **54(10)**, 3661-3668 (2011).
4. Wang, Y., Wallach, J., Duane, S., *et al.* Developing selective histone deacetylases (HDACs) inhibitors through ebselen and analogs. *Drug Des. Devel. Ther.* **11**, 1369-1382 (2017).
5. Sumaiya, K., Selvambika, P., and Natarajaseenivasan, K. Anti-macrophage migration inhibitory factor (MIF) activity of ibudilast: A repurposing drug attenuates the pathophysiology of leptospirosis. *Microb. Pathog.* **173(Pt A)**, 105786 (2022).
6. Nguyen, T.Q.A., Zhang, J., Dai, H., *et al.* Targeting RNase H2: A dual-mechanism strategy to elevate replication stress, DNA damage, and antitumor immunity in *TNBC. Cell Rep. Med.* **7(5)**, 102750 (2026).

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
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 08/26/2026

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM