

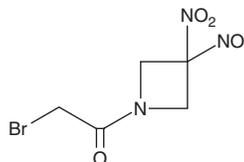
PRODUCT INFORMATION



RRx-001

Item No. 28846

CAS Registry No.: 925206-65-1
Formal Name: 2-bromo-1-(3,3-dinitro-1-azetidiny)-ethanone
Synonym: ABDNAZ
MF: C₅H₆BrN₃O₅
FW: 268.0
Purity: ≥95%
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

RRx-001 is supplied as a solid. A stock solution may be made by dissolving the RRx-001 in the solvent of choice, which should be purged with an inert gas. RRx-001 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of RRx-001 in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Description

RRx-001 is an anticancer agent.¹ It inhibits growth in a panel of 12 cancer cell lines (IC₅₀s = 1.8-6 μM), an effect that is enhanced in SCC VII cells under hypoxic conditions. RRx-001 increases intracellular levels of reactive oxygen species (ROS) in HT-29 and SCC VII cells in a concentration- and time-dependent manner and induces apoptosis in SCC VII, HL-60, and Daudi cells when used at concentrations of 5, 5, and 4 μM, respectively. RRx-001 (5 mg/kg per day for five days) reduces tumor growth and enhances radiation-induced tumor growth reduction in an SCC VII murine squamous cell carcinoma model. Pre-incubation of red blood cells and hemolysate with RRx-001 (3 mM) increases nitrite-induced nitric oxide (NO) release under hypoxic conditions.² RRx-001 (10 mg/kg) also decreases parasitemia and increases survival in a mouse model of *P. berghei* ANKA infection.³

References

1. Ning, S., Bednarski, M., Oronsky, B., *et al.* Dinitroazetidines are a novel class of anticancer agents and hypoxia-activated radiation sensitizers developed from highly energetic materials. *Cancer Res.* **72(10)**, 2600-2608 (2012).
2. Fens, M.H., Cabrales, P., Scicinski, J., *et al.* Targeting tumor hypoxia with the epigenetic anticancer agent, RRx-001: A superagonist of nitric oxide generation. *Med. Oncol.* **33(8)**, 85 (2016).
3. Yalcin, O., Oronsky, B., Carvalho, L.J.M., *et al.* From METS to malaria: RRx-001, a multi-faceted anticancer agent with activity in cerebral malaria. *Malar. J.* **14**, 218 (2015).

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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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