

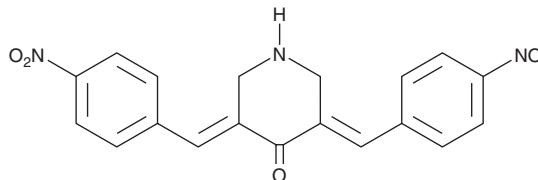
PRODUCT INFORMATION



RA-9

Item No. 40838

CAS Registry No.: 919091-63-7
Formal Name: 3E,5E-bis[(4-nitrophenyl)methylene]-4-piperidinone
MF: $C_{19}H_{15}N_3O_5$
FW: 365.3
Purity: $\geq 98\%$
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

RA-9 is supplied as a solid. A stock solution may be made by dissolving the RA-9 in the solvent of choice, which should be purged with an inert gas. RA-9 is sparingly soluble (1-10 mg/ml) in DMSO.

Description

RA-9 is an inhibitor of deubiquitinating enzymes.¹ It inhibits ubiquitin C-terminal hydrolase L1 (UCH-L1), UCH-L3, and ubiquitin-specific protease 8 (USP8) in a cell-free assay when used at a concentration of 10 μM , as well as USP5 in a reporter assay at the same concentration. RA-9 (10 μM) also inhibits the 26S proteasome, but not the 20S proteasome, in a reporter assay using HeLa cervical cancer cells. It increases the levels of polyubiquitinated proteins in HeLa and TOV-21G ovarian cancer cells when used at a concentration of 5 μM . RA-9 (10 μM) induces cell cycle arrest at the S and G₂/M phases in HeLa cells. It decreases the viability of nine cancer cell lines with IC₅₀ values ranging from 1.64 to 12.49 μM . *In vivo*, RA-9 (5 mg/kg every other day) increases survival and decreases tumor and ascitic fluid mass in an ES-2 ovarian cancer mouse xenograft model.²

References

1. Issaenko, O.A., and Amerik, A.Y. Chalcone-based small-molecule inhibitors attenuate malignant phenotype via targeting deubiquitinating enzymes. *Cell Cycle* **11**(9), 1804-1817 (2012).
2. Coughlin, K., Anchoori, R., Iizuka, Y., *et al.* Small-molecule RA-9 inhibits proteasome-associated DUBs and ovarian cancer *in vitro* and *in vivo* via exacerbating unfolded protein responses. *Clin. Cancer Res.* **20**(12), 3174-3186 (2014).

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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