

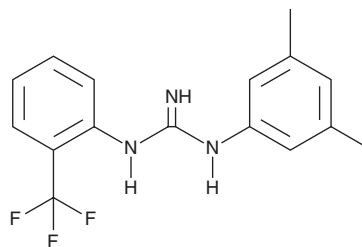
PRODUCT INFORMATION



1A-116

Item No. 40781

CAS Registry No.: 1430208-73-3
Formal Name: N-(3,5-dimethylphenyl)-N'-[2-(trifluoromethyl)phenyl]-guanidine
MF: C₁₆H₁₆F₃N₃
FW: 307.3
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

1A-116 is supplied as a solid. A stock solution may be made by dissolving the 1A-116 in the solvent of choice, which should be purged with an inert gas. 1A-116 is soluble (≥10 mg/ml) in ethanol and DMSO.

Description

1A-116 is an inhibitor of Rac1 (IC₅₀ = 4 μM).¹ It reduces the secretion of chemokine (C-X-C motif) ligand 5 (CXCL5), CXCL10, hepatocyte growth factor (HGF), chemokine (C-C motif) ligand 2 (CCL2), and matrix metalloproteinase-2 (MMP-2) from patient-derived acute myeloid leukemia (AML) cells when used at a concentration of 20 μM.² 1A-116 (20 μM) inhibits the proliferation and migration of, and induces apoptosis in, LN-229 glioblastoma cells at 10 hours, but not 23 hours, post-synchronization.³ *In vivo*, 1A-116 (3 mg/kg per day) decreases the number of lung nodules and macronodules, as well as total lung weight, in a F3II murine breast cancer model of lung tumor formation.¹ It also inhibits the asexual replication of the *P. falciparum* strains D10 and W2 (IC₅₀s = 3.21 and 6.89 μM, respectively) and sexual replication in *P. falciparum* 3D7 immature and mature gametocytes (IC₅₀s = 78.13 and 56.64 μM, respectively).⁴

References

1. Cardama, G.A., Comin, M.J., Hornos, L., *et al.* Preclinical development of novel Rac1-GEF signaling inhibitors using a rational design approach in highly aggressive breast cancer cell lines. *Anticancer Agents Med. Chem.* 14(6), 840-851 (2014).
2. Hemsing, A.L., Rye, K.P., Hatfield, K.J., *et al.* NPM1-mutated patient-derived AML cells are more vulnerable to Rac1 inhibition. *Biomedicines* 10(8), 1881 (2022).
3. Trebucq, L.L., Cardama, G.A., Lorenzano Menna, P., *et al.* Timing of novel drug 1A-116 to circadian rhythms improves therapeutic effects against glioblastoma. *Pharmaceutics* 13(7), 1091 (2021).
3. Parapini, S., Paone, S., Erba, E., *et al.* *In vitro* antimalarial activity of inhibitors of the human GTPase Rac1. *Antimicrob. Agents Chemother.* 66(1), e0149821 (2022).

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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