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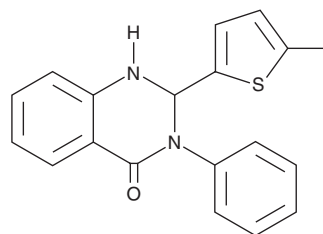
PRODUCT INFORMATION



Retro-2

Item No. 21946

CAS Registry No.: 1429192-00-6
Formal Name: 2,3-dihydro-2-(5-methyl-2-thienyl)-3-phenyl-4(1H)-quinazolinone
MF: C₁₉H₁₆N₂OS
FW: 320.4
Purity: ≥98%
UV/Vis.: λ_{max}: 226 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Retro-2 is supplied as a crystalline solid. A stock solution may be made by dissolving the Retro-2 in the solvent of choice. Retro-2 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of Retro-2 in these solvents is approximately 5 mg/ml.

Retro-2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Retro-2 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Retro-2 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Retro-2 is a selective inhibitor of retrograde protein trafficking mediated by syntaxin-5 at the interface between the endosome and *trans*-Golgi network, with no discernable effects on other intracellular trafficking pathways.^{1,2} Retro-2 inhibits ebolavirus infection with an EC₅₀ value of 12.2 μM and reduces ricin-induced toxicity by 2.7-fold when used at a concentration of 20 μM in HeLa cells.^{2,3} Retro-2 also blocks JC polyomavirus, BK polyomavirus, and SV40 infectivity in Vero green monkey kidney epithelial cells *in vitro* (EC₅₀s = 28.4, 61.2, and 58.6 μM, respectively).⁴ In mouse models, Retro-2 improves survival and reduces symptoms following infection with Shiga toxin-producing *E. coli* when administered at a dose of 100 mg/kg and protects against ricin challenge when administered prophylactically at a dose of 2 mg/kg.^{2,5}

References

1. Nonnenmacher, M.E., Cintrat, J.C., Gillet, D., *et al.* Syntaxin 5-dependent retrograde transport to the *trans*-Golgi network is required for adeno-associated virus transduction. *J. Virol.* **89**(3), 1673-1687 (2015).
2. Stechmann, B., Bai, S.K., Gobbo, E., *et al.* Inhibition of retrograde transport protects mice from lethal ricin challenge. *Cell* **141**(2), 231-242 (2010).
3. Shtanko, O., Sakurai, Y., Reyes, A.N., *et al.* Retro-2 and its dihydroquinazolinone derivatives inhibit filovirus infection. *Antiviral Res.* **149**, 154-163 (2018).
4. Nelson, C.D., Carney, D.W., Derdowski, A., *et al.* A retrograde trafficking inhibitor of ricin and Shiga-like toxins inhibits infection of cells by human and monkey polyomaviruses. *MBio* **4**(6), e00729-13 (2013).
5. Secher, T., Shima, A., Hinsinger, K., *et al.* Retrograde trafficking inhibitor of Shiga toxins reduces morbidity and mortality of mice infected with enterohemorrhagic *Escherichia coli*. *Antimicrob. Agents Chemother.* **59**(8), 5010-5013 (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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