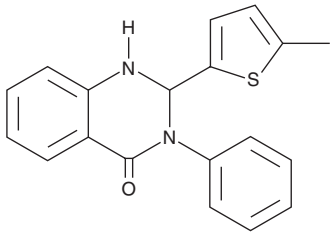
PRODUCT INFORMATION

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:	$C_{19}H_{16}N_2OS$
FW:	320.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 226 nm
Supplied as:	A crystalline 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

Retro-2 is supplied as a crystalline solid. A stock solution may be made by dissolving the Retro-2 in the solvent of choice, which should be purged with an inert gas. Retro-2 is soluble in organic solvents such as DMSO and dimethyl formamide. 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 EC_{50} 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* (EC_{50}s = 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).

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