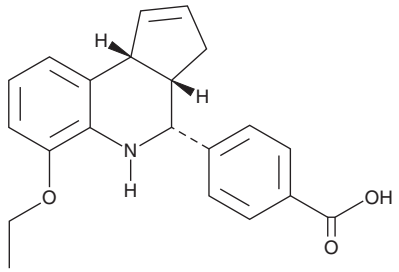
PRODUCT INFORMATION

Lin28 Inhibitor LI71

Item No. 41039

CAS Registry No.:	1357248-83-9
Formal Name:	4-[(3aS,4R,9bR)-6-ethoxy-3a,4,5,9b-tetrahydro-3H-cyclopenta[c]quinolin-4-yl]-benzoic acid
MF:	$C_{21}H_{21}NO_3$
FW:	335.4
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

Lin28 inhibitor LI71 is supplied as a solid. A stock solution may be made by dissolving the Lin28 inhibitor LI71 in the solvent of choice, which should be purged with an inert gas. Lin28 inhibitor LI71 is sparingly soluble (1-10 mg/ml) in DMSO.

Description

Lin28 inhibitor LI71 is an inhibitor of the protein-microRNA precursor interaction between the RNA-binding protein Lin28 and *let*-7.[1] It binds to the cold-shock domain of Lin28 to inhibit *let*-7 binding and inhibits Lin28-mediated *let*-7 oligouridylation (IC_{50} = ~27 µM). Lin28 inhibitor LI71 (100 µM) increases the levels of mature *let*-7*b*, -7*c*, -7*f*, -7*g*, and -7*i* as well as the levels of miR-16, which is not regulated by Lin28, in K562 leukemia cells but not the levels of miR-93, miR-99a, and miR-151, which are also not regulated by Lin28. It increases the levels of mature *let*-7*a*-*i* without increasing miR-16 levels in Lin28a/Lin28b double-knockout mouse embryonic stem cells (mESCs) expressing exogenous wild-type Lin28a. Lin28 inhibitor LI71 also inhibits the protein-protein interaction between *P. falciparum* cold-shock protein (P*f*CoSP) and P*f*DNA or P*f*α/β-tubulin.[2] It is active against *P. falciparum* strain 3D7 and the chloroquine-resistant strain RKL-9 (IC_{50}s = 1.35 and 6.3 nM, respectively).

References

1. Wang, L., Rowe, R.G., Jaimes, A., *et al.* Small-molecule inhibitors disrupt let-7 oligouridylation and release the selective blockade of let-7 processing by LIN28. *Cell Rep.* **23(10)**, 3091-3101 (2018).
2. Behl, A., Shoaib, R., De Leon, F., *et al.* Targeting an essential Plasmodium cold shock protein to block growth and transmission of malaria parasite. *iScience* **26(5)**, 106637 (2023).

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