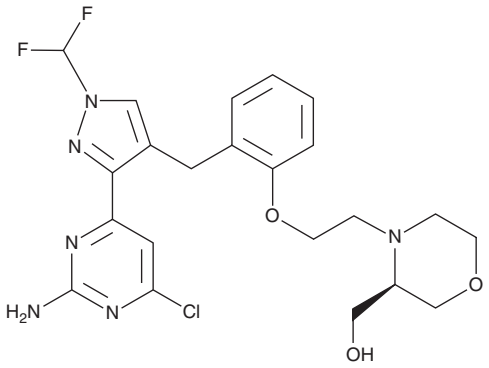
PRODUCT INFORMATION

TDI-11861

Item No. 39922



CAS Registry No.:	2857049-72-8
Formal Name:	(3R)-4-[2-[2-[[3-(2-amino-6-chloro-4-pyrimidinyl)-1-(difluoromethyl)-1H-pyrazol-4-yl]methyl]phenoxy]ethyl]-3-morpholinemethanol
MF:	$C_{22}H_{25}ClF_2N_6O_3$
FW:	494.9
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

TDI-11861 is supplied as a solid. A stock solution may be made by dissolving the TDI-11861 in the solvent of choice, which should be purged with an inert gas. TDI-11861 is soluble in the organic solvent DMSO.

Description

TDI-11861 is an inhibitor of soluble adenylyl cyclase (sAC; IC_{50} = 3.3 nM), a bicarbonate-regulated cytosolic enzyme also known as AC10.[1] It is selective for sAC over the transmembrane ACs (tmACs) AC1, AC2, AC5, AC8, and AC9 at 100 nM, a panel of 322 kinases (IC_{50}s = >1,000 nM for all), and 46 other targets, including G protein-coupled receptors (GPCRs), nuclear receptors, and ion channels, with 50% response concentration values (RC_{50}s) of greater than 9 µM. TDI-11861 has an increased residence time when binding to sAC in a surface plasmon resonance (SPR) assay and a slower dissociation rate in a jump dilution recovery assay compared with the sAC inhibitor TDI-10229 (Item No. 37674), indicating a lower risk of post-copulation female genital tract dilution. It inhibits capacitation-induced cAMP accumulation in isolated mouse and human sperm when used at a concentration of 5 µM and reduces sodium bicarbonate-induced increases in mouse and human sperm beat frequency.[2] Oral administration of a single dose of TDI-11861 (50 mg/kg) induces temporary infertility in male mice without affecting mating behavior.

References

1. Miller, M., Rossetti, T., Ferreira, J., *et al.* Design, synthesis, and pharmacological evaluation of second-generation soluble adenylyl cyclase (sAC, ADCY10) inhibitors with slow dissociation rates. *J. Med. Chem.* **65(22)**, 15208-15226 (2022).
2. Balbach, M., Rossetti, T., Ferreira, J., *et al.* On-demand male contraception via acute inhibition of soluble adenylyl cyclase. *Nat. Commun.* **14(1)**, 637 (2023).

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