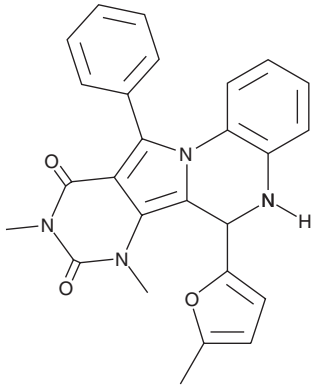
PRODUCT INFORMATION

PPQ-102

Item No. 16275



CAS Registry No.:	931706-15-9
Formal Name:	6,7-dihydro-7,9-dimethyl-6-(5-methyl-2-furanyl)-11-phenyl-pyrimido[4',5':3,4]pyrrolo[1,2-a]quinoxaline-8,10(5H,9)-dione
Synonyms:	CFTR Inhibitor IV, Cystic Fibrosis Transmembrane Conductance Regulator Inhibitor IV
MF:	$C_{26}H_{22}N_4O_3$
FW:	438.5
Purity:	≥95%
UV/Vis.:	λ_{max}: 211, 329 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

PPQ-102 is supplied as a crystalline solid. A stock solution may be made by dissolving the PPQ-102 in the solvent of choice, which should be purged with an inert gas. PPQ-102 is soluble in dimethyl formamide at a concentration of approximately 0.2 mg/ml.

PPQ-102 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

The cystic fibrosis (CF) gene encodes a cAMP-regulated chloride channel, the CF transmembrane conductance regulator (CFTR). PPQ-102 is a cell-permeable pyrimido-pyrrolo-quinoxalinedione that reversibly inhibits CFTR chloride channels with an IC_{50} value of 90 nM.[1] At 0.5-5 µM, PPQ-102 has been used to reduce the size and number of renal cysts in a neonatal kidney organ culture model of polycystic kidney disease.[1] At 1 µM, PPQ-102 can increase vascular endothelial growth factor-A production in cultured airway epithelial NCI-H292 cells, triggering epidermal growth factor receptor phosphorylation.[2]

References

1. Tradtrantip, L., Sonawane, N.D., Namkung, W., *et al.* Nanomolar potency pyrimido-pyrrolo-quinoxalinedione CFTR inhibitor reduces cyst size in a polycystic kidney disease model. *J. Med. Chem.* **52(20)**, 6447-6455 (2009).
2. Martin, C., Coolen, N., Wu, Y., *et al.* CFTR dysfunction induces vascular endothelial growth factor synthesis in airway epithelium. *Eur. Respir. J.* **42**, 1553-1562 (2013).

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