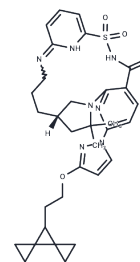


## Vanzacaftor

## Chemical Properties

CAS No. :	2374124-49-7
Formula:	C32H39N7O4S
Molecular Weight:	617.76
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Vanzacaftor is a cystic fibrosis transmembrane conductance regulator (CFTR) modulator designed to improve CFTR protein processing and trafficking to the cell surface. Vanzacaftor enhances CFTR functionality, restoring chloride transport, and serves as a critical research tool for the development of therapies targeting cystic fibrosis.
Targets(IC50)	CFTR, Chloride channel
In vitro	When the concentration of Vanzacaftor was 0-10 $\mu\text{M}$ , it stimulated $\text{K}^+$ secretion in Homo sapiens bronchial epithelial cells (HBEs) at low micromolar concentrations, with an $\text{EC}_{50}$ value of 4.4 $\mu\text{M}$ for this effect being inhibited by Paxilline [2]. Treatment with 1 $\mu\text{M}$ , 5 $\mu\text{M}$ , and 10 $\mu\text{M}$ Vanzacaftor significantly enhanced the $\alpha\text{BKCa}$ current in HEK cells, and this current could be blocked by Paxilline [2]. When 5 $\mu\text{M}$ Vanzacaftor acted on hippocampal primary neurons, it reduced their action potential discharge frequency and altered neuronal excitability [2].

## Solubility Information

Solubility	DMSO: 80 mg/mL (129.5 mM), Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (5.34 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	1.6188 mL	8.0938 mL	16.1875 mL
5 mM	0.3238 mL	1.6188 mL	3.2375 mL
10 mM	0.1619 mL	0.8094 mL	1.6188 mL
50 mM	0.0324 mL	0.1619 mL	0.3238 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Uluer AZ, et al. Safety and efficacy of vanzacaftor-tezacaftor-deutivacaftor in adults with cystic fibrosis: randomised, double-blind, controlled, phase 2 trials[J]. Lancet Respir Med. 2023 Jun;11(6):550-562.

Kolski-Andreaco A, et al. Potentiation of BKCa channels by cystic fibrosis transmembrane conductance regulator (CFTR) correctors VX-445 and VX-121[J]. J Clin Invest. 2024 Jul 2:e176328.

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