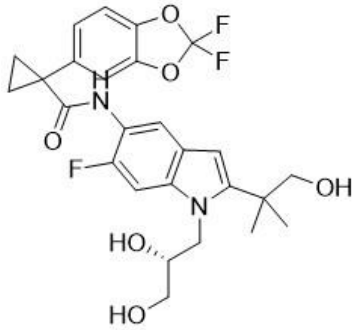
Product data sheet

MedKoo Cat#: 510264 Name: Tezacaftor (VX-661) CAS#: 1152311-62-0 Chemical Formula: $C_{26}H_{27}F_3N_2O_6$ Exact Mass: 520.18212 Molecular Weight: 520.5	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Tezacaftor, also known asVX-661, is CFTR modulator. VX-661 is potentially useful for treatment of cystic fibrosis disease. Cystic fibrosis (CF) is a genetic disease caused by defects in the CF transmembrane regulator (CFTR) gene, which encodes an epithelial chloride channel. The most common mutation, Δ508CFTR, produces a protein that is misfolded and does not reach the cell membrane. VX-661 can correct trafficking of Δ508CFTR and partially restore chloride channel activity.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	102.0	195.67

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.92	9.61	19.21
5 mM	0.38	1.92	3.84
10 mM	0.19	0.96	1.92
50 mM	0.04	0.19	0.38

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Rayner RE, Wellmerling J, Osman W, Honesty S, Alfaro M, Peeples ME, Cormet-Boyaka E. In vitro 3D culture lung model from expanded primary cystic fibrosis human airway cells. J Cyst Fibros. 2020 Sep;19(5):752-761. doi: 10.1016/j.jcf.2020.05.007. Epub 2020 Jun 18. PMID: 32565193; PMCID: PMC7796805.

In vivo study

TBD

7. Bioactivity

Biological target:

Tezacaftor (VX-661) is a second F508del CFTR corrector.

Product data sheet

In vitro activity

Primary CF airway cells were expanded using PneumaCultTM-Ex Plus (StemCell Technologies) medium with no feeder cells or added Rho kinase (ROCK) inhibitor. Differentially passaged CF-HBE cells at the air-liquid interface (ALI) were characterized phenotypically and functionally in response to the CFTR corrector drug VX-661 (Tezacaftor). CF-HBE primary cells, expanded up to six passages (~25 population doublings), differentiated into 3D epithelial cultures as evidenced by trans-epithelial electrical resistance (TEER) of >400 Ohms·cm2 and presence of pseudostratified columnar ciliated epithelium with goblet cells. However, up to passage five cells from most donors showed increased CFTR-mediated short-circuit currents when treated with the corrector drug, VX-661. Ciliary beat frequency (CBF) also increased with the corrector VX-661. The study of rare CF mutations could benefit from cell expansion and could lead to the design of personalized medicine/treatments.

J Cyst Fibros. 2020 Sep;19(5):752-761. https://pubmed.ncbi.nlm.nih.gov/32565193/

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.