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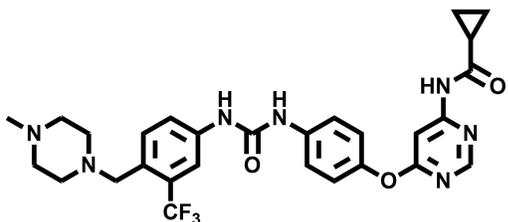
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## β Cell Proliferation Inducer – WS3

**Chemical Name:** N-(6-(4-(3-(4-((4-methylpiperazin-1-yl)methyl)-3-(trifluoromethyl)phenyl)ureido)phenoxy)pyrimidin-4-yl)cyclopropanecarboxamide



Molecular Weight:	569.58
Formula:	C <sub>28</sub> H <sub>30</sub> F <sub>3</sub> N <sub>7</sub> O <sub>3</sub>
Purity:	≥ 98%
CAS#:	1421227-52-2
Solubility:	DMSO up to 100 mM
Storage	Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year

### Biological Activity:

WS3 is a highly potent and selective small molecule that promotes pancreatic β cell and RPE cells expansion, identified by a high-throughput, cell-based screening. It can induce proliferation of mouse R7T1 β cells with an EC<sub>50</sub> ~0.074 μM, and expansion of primary rat and human β cells in dissociated and intact islet format with similar EC<sub>50</sub>. WS3 can also reversibly proliferate primary RPE cells isolated from fetal and adult human donors. Following withdrawal of WS3, RPE cells differentiate into a functional monolayer, as exhibited by their expression of mature RPE genes and phagocytosis of photoreceptor outer segments. Furthermore, chemically expanded RPE cells preserve vision when transplanted into dystrophic Royal College of Surgeons (RCS) rats, a well-established model of retinal degeneration.

### How to Use:

**In vitro:** WS3 was used at 0.05-0.2 μM concentration in beta cell proliferation assays in vitro. WS3 was used at 25 nM concentration in RPE cells expansion assays.

**In vivo:** n/a

### Reference:

1. Shen W, et al. Small-Molecule Inducer of β Cell Proliferation Identified by High-Throughput Screening. (2013) J Am Chem Soc. 135(5):1669-72.
2. Swoboda JG, et al. Small Molecule Mediated Proliferation of Primary Retinal Pigment Epithelial Cells. (2013) ACS Chem Biol. In press.

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