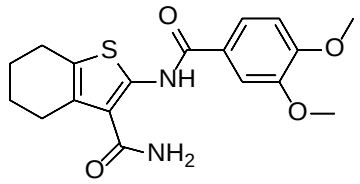
Product data sheet

MedKoo Cat#: 406289 Name: TCS-359 CAS#: 301305-73-7 Chemical Formula: $C_{18}H_{20}N_2O_4S$ Exact Mass: 360.1144 Molecular Weight: 360.43	
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:
TCS-359 is a potent inhibitor of FLT3 with IC50 of 42 nM.

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	10.78	29.91
DMF	5.0	13.87
DMF:PBS (pH 7.2) (1:3)	0.25	0.69

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.77 mL	13.87 mL	27.74 mL
5 mM	0.55 mL	2.77 mL	5.55 mL
10 mM	0.28 mL	1.39 mL	2.77 mL
50 mM	0.06 mL	0.28 mL	0.55 mL

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. Seo H, Chen SJ, Hashimoto K, Endo H, Nishi Y, Ohta A, Yamamoto T, Hotta A, Sawaguchi A, Hayashi H, Koseki N, Murphy GJ, Fukuda K, Sugimoto N, Eto K. A β1-tubulin-based megakaryocyte maturation reporter system identifies novel drugs that promote platelet production. Blood Adv. 2018 Sep 11;2(17):2262-2272. doi: 10.1182/bloodadvances.2018019547. PMID: 30206099; PMCID: PMC6134216.

In vivo study

1. Seo H, Chen SJ, Hashimoto K, Endo H, Nishi Y, Ohta A, Yamamoto T, Hotta A, Sawaguchi A, Hayashi H, Koseki N, Murphy GJ, Fukuda K, Sugimoto N, Eto K. A β1-tubulin-based megakaryocyte maturation reporter system identifies novel drugs that promote platelet production. Blood Adv. 2018 Sep 11;2(17):2262-2272. doi: 10.1182/bloodadvances.2018019547. PMID: 30206099; PMCID: PMC6134216.

7. Bioactivity
Biological target: TCS 359 is a FLT3 inhibitor with an IC50 of 42 nM.

In vitro activity

Product data sheet

TCS 359 showed marked effects on eliciting imMKCL (immortalized MK [megakaryocyte] cell line) maturation, as judged by upregulated TUBB1 (β1-tubulin) levels (supplemental Figure 3C), enlarged surface area (Figure 3A), enhanced number of proplatelet-bearing MKs (supplemental Figure 4), and increased PLP (platelet-like particles) yield (Figure 2F; supplemental Figure 5). The results suggested that increased PLP production results from a higher number of MKs that extend proplatelets rather than a higher degree of MK maturation. The structure of PLPs produced under the addition of TCS 359 using transmission electron microscopy (supplemental Figure 6) were evaluated and it was confirmed that the levels of PAC-1 binding were comparable with human donor–derived platelets (Figure 3C).

Reference: Blood Adv. 2018 Sep 11;2(17):2262-2272. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6134216/

In vivo activity

Whether Wnt-C59 and TCS 359 could improve in vivo thrombopoiesis was studied using a mouse thrombocytopenia model induced by the administration of anti-GPIbα antibody (200 ng/g body weight; Figure 3F). Because SR1 is a human specific AhR antagonist, the actions of Wnt-C59, TCS 359, and CH223191, an AhR antagonist nonselective for species, were evaluated. The 3 drugs showed a significant tendency to recover platelet levels compared with the control (phosphate-buffered saline; PBS) group (Figure 3G; supplemental Figure 8), suggesting that thrombocytopenia in mice was better restored by the 3 drugs.

Reference: Blood Adv. 2018 Sep 11;2(17):2262-2272. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6134216/