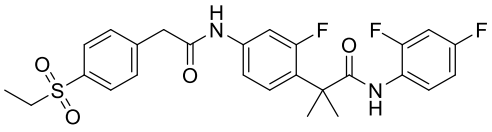
Product data sheet

MedKoo Cat#: 555361 Name: S18-000003 CAS#: 2068119-11-7 Chemical Formula: $C_{26}H_{25}F_3N_2O_4S$ Exact Mass: 518.1487 Molecular Weight: 518.5512	
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:
S18-000003 is a potent orally bioavailable retinoic acid receptor-related orphan receptor-gamma-t (RORγt) inhibitor with IC50 = 30 nM. S18-000003 inhibited IL-17 production in the skin of IL-23-treated mice by oral administration.

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	100	192.85

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.93 mL	9.64 mL	19.28 mL
5 mM	0.39 mL	1.93 mL	3.86 mL
10 mM	0.19 mL	0.96 mL	1.93 mL
50 mM	0.04 mL	0.19 mL	0.39 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. Imura C, Ueyama A, Sasaki Y, Shimizu M, Furue Y, Tai N, Tsujii K, Katayama K, Okuno T, Shichijo M, Yasui K, Yamamoto M. A novel RORγt inhibitor is a potential therapeutic agent for the topical treatment of psoriasis with low risk of thymic aberrations. J Dermatol Sci. 2019 Mar;93(3):176-185. doi: 10.1016/j.jdermsci.2019.03.002. Epub 2019 Mar 8. PMID: 30905492.

2. Sasaki Y, Odan M, Yamamoto S, Kida S, Ueyama A, Shimizu M, Haruna T, Watanabe A, Okuno T. Discovery of a potent orally bioavailable retinoic acid receptor-related orphan receptor-gamma-t (RORγt) inhibitor, S18-000003. Bioorg Med Chem Lett. 2018 Dec 1;28(22):3549-3553. doi: 10.1016/j.bmcl.2018.09.032. Epub 2018 Sep 27. PMID: 30301676.

In vivo study

1. Imura C, Ueyama A, Sasaki Y, Shimizu M, Furue Y, Tai N, Tsujii K, Katayama K, Okuno T, Shichijo M, Yasui K, Yamamoto M. A novel RORγt inhibitor is a potential therapeutic agent for the topical treatment of psoriasis with low risk of thymic aberrations. J Dermatol Sci. 2019 Mar;93(3):176-185. doi: 10.1016/j.jdermsci.2019.03.002. Epub 2019 Mar 8. PMID: 30905492.

2. Sasaki Y, Odan M, Yamamoto S, Kida S, Ueyama A, Shimizu M, Haruna T, Watanabe A, Okuno T. Discovery of a potent orally bioavailable retinoic acid receptor-related orphan receptor-gamma-t (RORγt) inhibitor, S18-000003. Bioorg Med Chem Lett. 2018 Dec 1;28(22):3549-3553. doi: 10.1016/j.bmcl.2018.09.032. Epub 2018 Sep 27. PMID: 30301676.

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7. Bioactivity

Biological target:

S18-000003 is a potent, selective and orally active inhibitor of retinoic acid receptor-related orphan receptor-gamma-t (RORγt), with an IC50 of <30 nM towards human RORγt in competitive binding assays.

In vitro activity

S18-000003 suppressed all subsets of IL-17-producing cells that we previously identified in this psoriasis model: Th17 cells, Tc17 cells, dermal γδ T cells, TCR- cells that probably included innate lymphoid cells, and CD4-CD8- double-negative αβ T cells.

Reference: J Dermatol Sci. 2019 Mar;93(3):176-185. https://linkinghub.elsevier.com/retrieve/pii/S0923-1811(19)30067-2

In vivo activity

The effect of these compounds on IL-17 production in the skin of mice injected with IL-23 is shown in Fig. 5. Oral administration of both compounds inhibited IL-17 production in the skin in a dose-dependent manner. S18-000003 (compound 25) showed significant inhibition at a dose of >30 mg/kg, and administration at a dose of 100 mg/kg resulted in 63% inhibition relative to vehicle controls.

Reference: Bioorg Med Chem Lett. 2018 Dec 1;28(22):3549-3553. https://linkinghub.elsevier.com/retrieve/pii/S0960-894X(18)30774-1

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.