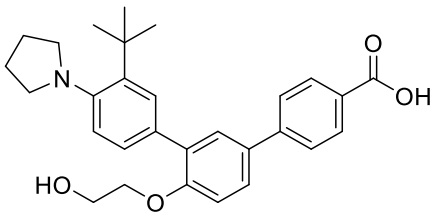
Product data sheet

MedKoo Cat#: 319722 Name: Trifarotene CAS#: 895542-09-3 Chemical Formula: $C_{29}H_{33}NO_4$ Exact Mass: 459.241 Molecular Weight: 459.586	
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:
Trifarotene is a gamma retinoic acid receptor agonist. Trifarotene is in development as a topical cream for the treatment of skin disorders, including acne vulgaris, cutaneous t-cell lymphoma and lamellar ichthyosis.

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	250.0	543.97

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.18 mL	10.88 mL	21.76 mL
5 mM	0.44 mL	2.18 mL	4.35 mL
10 mM	0.22 mL	1.09 mL	2.18 mL
50 mM	0.04 mL	0.22 mL	0.44 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. Aubert J, Piwnica D, Bertino B, Blanchet-Réthoré S, Carlavan I, Déret S, Dreno B, Gamboa B, Jomard A, Luzy AP, Mauvais P, Mounier C, Pascau J, Pelisson I, Portal T, Rivier M, Rossio P, Thoreau E, Vial E, Voegel JJ. Nonclinical and human pharmacology of the potent and selective topical retinoic acid receptor-γ agonist trifarotene. Br J Dermatol. 2018 Aug;179(2):442-456. doi: 10.1111/bjd.16719. Epub 2018 Jul 4. PMID: 29974453.

In vivo study

1. Aubert J, Piwnica D, Bertino B, Blanchet-Réthoré S, Carlavan I, Déret S, Dreno B, Gamboa B, Jomard A, Luzy AP, Mauvais P, Mounier C, Pascau J, Pelisson I, Portal T, Rivier M, Rossio P, Thoreau E, Vial E, Voegel JJ. Nonclinical and human pharmacology of the potent and selective topical retinoic acid receptor-γ agonist trifarotene. Br J Dermatol. 2018 Aug;179(2):442-456. doi: 10.1111/bjd.16719. Epub 2018 Jul 4. PMID: 29974453.

7. Bioactivity
Biological target:

Trifarotene (CD5789) is a selective RARγ agonist that shows ~65-fold and ~16-fold selectivitiy for the RARγ (EC50=7.7 nM) over RARα (EC50=500 nM) and RARβ (EC50=125 nM), respectively.

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In vitro activity

The objective of this study was to characterize the in vitro metabolism and pharmacology of the novel retinoid trifarotene. In vitro assays determined efficacy, potency and selectivity on RARs, as well as the activity on the expression of retinoid target genes in human keratinocytes. Trifarotene is a selective RARγ agonist with > 20-fold selectivity over RARα and RARβ. Trifarotene is active and stable in keratinocytes but rapidly metabolized by human hepatic microsomes, predicting improved safety.

Reference: Br J Dermatol. 2018 Aug;179(2):442-456. https://pubmed.ncbi.nlm.nih.gov/29974453/

In vivo activity

In vivo, trifarotene 0·01% applied topically is highly comedolytic and has anti-inflammatory and antipigmenting properties. Gene expression studies indicated potent activation of known retinoid-modulated processes (epidermal differentiation, proliferation, stress response, retinoic acid metabolism) and novel pathways (proteolysis, transport/skin hydration, cell adhesion) in ex vivo and in vivo models

Reference: Br J Dermatol. 2018 Aug;179(2):442-456. https://pubmed.ncbi.nlm.nih.gov/29974453/

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.