



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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- Expressversand

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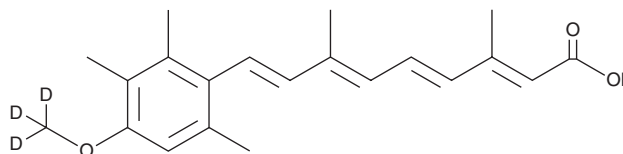
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# PRODUCT INFORMATION



## Acitretin-d<sub>3</sub> Item No. 28696

**Formal Name:** (2E,4E,6E,8E)-9-(4-(methoxy-d<sub>3</sub>)-2,3,6-trimethylphenyl)-3,7-dimethylnona-2,4,6,8-tetraenoic acid  
**MF:** C<sub>21</sub>H<sub>23</sub>D<sub>3</sub>O<sub>3</sub>  
**FW:** 329.5  
**Chemical Purity:** ≥98% (Acitretin)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Acitretin-d<sub>3</sub> is intended for use as an internal standard for the quantification of acitretin (Item No. 20853) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Acitretin-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the acitretin-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Acitretin-d<sub>3</sub> is soluble in the organic solvent DMSO.

### Description

Acitretin is a retinoid and an active metabolite of the retinoid etretinate (Item No. 19878) that has antiproliferative activities.<sup>1,2</sup> It binds to cellular retinoic acid binding protein I (CRABP-I) and CRABP-II (K<sub>d</sub>s = 3 and 15 nM, respectively, for the mouse recombinant proteins) but has low affinity for human recombinant retinoic acid receptor-retinoid X receptor (RAR-RXR) heterocomplexes.<sup>3,4</sup> Acitretin inhibits proliferation (IC<sub>50</sub> = 6.6 μM) and suppresses TNF-α- and IFN-γ-induced protein levels of STAT1, NF-κB, and RANTES in HaCaT keratinocytes when used at concentrations up to 50 μM.<sup>5</sup> It inhibits proliferation of HL-60, SCC-4, SCC-15, and A431, but not MC-F7, cancer cells, when used at a concentration of 30 μM.<sup>1</sup> Acitretin (20 μg per mouse) decreases the severity of psoriatic-like skin lesions in K14-VEGF transgenic mice.<sup>2</sup> Formulations containing acitretin have been used in the treatment of psoriasis.

### References

1. Frey, J.R., Peck, R., and Bollag, W. Antiproliferative activity of retinoids, interferon α and their combination in five human transformed cell lines. *Cancer Lett.* **57(3)**, 223-227 (1991).
2. An, J., Zhang, D., Wu, J., et al. The acitretin and methotrexate combination therapy for psoriasis vulgaris achieves higher effectiveness and less liver fibrosis. *Pharmacol. Res.* **121**, 158-168 (2017).
3. Norris, A.W., Cheng, L., Giguère, V., et al. Measurement of subnanomolar retinoic acid binding affinities for cellular retinoic acid binding proteins by fluorometric titration. *Biochim. Biophys. Acta.* **1209(1)**, 10-18 (1994).
4. Tian, K., Norris, A.W., Lin, C.L., et al. The isolation and characterization of purified heterocomplexes of recombinant retinoic acid receptor and retinoid X receptor ligand binding domains. *Biochemistry* **36(19)**, 5669-5676 (1997).
5. Zhang, M., Zhu, L., Feng, Y., et al. Effects of acitretin on proliferative inhibition and RANTES production of HaCaT cells. *Arch. Dermatol. Res.* **300(10)**, 575-581 (2008).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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