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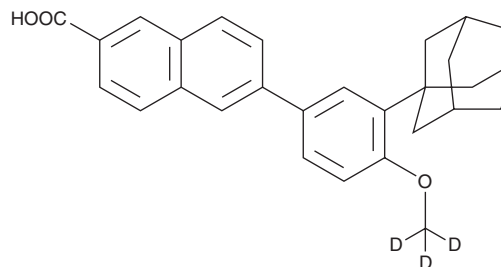
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PRODUCT INFORMATION



Adapalene-d₃ Item No. 25758

CAS Registry No.: 1276433-89-6
Formal Name: 6-(3-((3R,5R,7R)-adamantan-1-yl)-4-(methoxy-d₃)phenyl)-2-naphthoic acid
MF: C₂₈H₂₅D₃O₃
FW: 415.5
Chemical Purity: ≥98% (Adapalene)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
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

Adapalene-d₃ is intended for use as an internal standard for the quantification of adapalene (Item No. 13655) 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).

Adapalene-d₃ is supplied as a solid. A stock solution may be made by dissolving the adapalene-d₃ in the solvent of choice. Adapalene-d₃ is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of adapalene-d₃ in these solvents is approximately 5 mg/ml.

Description

Adapalene is a synthetic retinoid and an agonist of retinoic acid receptors (RARs; K_ds = 1,100, 34, and 130 nM for RAR α , RAR β , and RAR γ , respectively).¹⁻⁵ It inhibits growth and differentiation of sebocytes in a concentration-dependent manner in primary rat preputial cell culture. Adapalene (10 μ M) completely inhibits the activity of soybean 15-lipoxygenase (15-LOX) in an enzyme assay and inhibits the 5- and 15-LOX pathways in human blood polymorphonuclear leukocytes (PMNs).² It reduces the protein levels of toll-like receptor 2 (TLR2) and IL-10 in skin explants isolated from patients with acne and healthy controls in a concentration-dependent manner but increases the expression of the antigen-presenting protein CD1d in acne skin explants while decreasing it in control explants.³ It inhibits inflammation in rodent models of ear edema induced by arachidonic acid and carrageenan-induced paw edema.² Adapalene (100 μ M) also induces apoptosis and inhibits proliferation of CC-531, HT-29, and LoVo colon cancer cells and reduces tumor growth in a DLD-1 colon cancer nude mouse xenograft model in a dose-dependent manner.^{4,5} Formulations containing adapalene have been used in the treatment of acne vulgaris.

References

1. Kim, M.J., Ciletti, N., Michel, S., et al. *J. Invest. Dermatol.* **114**(2), 349-353 (2000).
2. Hensby, C., Cavey, D., Bouclier, M., et al. *Agents Actions* **29**(1-2), 56-58 (1990).
3. Tenaud, I., Khammari, A., and Dreno, B. *Exp. Dermatol.* **16**(6), 500-506 (2007).
4. Ocker, M., Herold, C., Ganslmayer, M., et al. *Int. J. Cancer* **107**(3), 453-459 (2003).
5. Shi, X.-N., Li, H., Yao, H., et al. *Mol. Med. Rep.* **12**(5), 6501-6508 (2015).

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.

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