

# PRODUCT INFORMATION



## (±)-α-Tocopherol Acetate-d<sub>3</sub>

Item No. 30081

**Formal Name:** (2R)-rel-3,4-dihydro-2,5,7,8-tetramethyl-2-[(4R,8R)-4,8,12-trimethyltridecyl]-2H-1-benzopyran-6-ol, 6-(acetate-d<sub>3</sub>)

**Synonyms:** all-*rac*-α-Tocopherol Acetate-d<sub>3</sub>, DL-α-Tocopherol Acetate-d<sub>3</sub>, DL-Vitamin E Acetate-d<sub>3</sub>

**MF:** C<sub>31</sub>H<sub>49</sub>D<sub>3</sub>O<sub>3</sub>

**FW:** 475.8

**Chemical Purity:** ≥95% ((±)-α-Tocopherol Acetate)

**Deuterium**

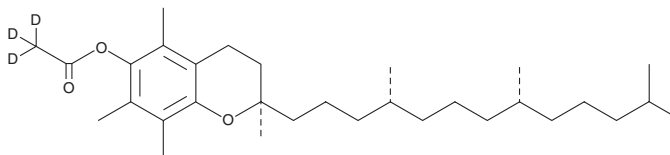
**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>

**Supplied as:** An oil

**Storage:** -20°C

**Stability:** ≥2 years

**Item Origin:** Synthetic



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

### Laboratory Procedures

(±)-α-Tocopherol acetate-d<sub>3</sub> is intended for use as an internal standard for the quantification of (±)-α-tocopherol acetate (Item No. 28399) 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).

(±)-α-Tocopherol acetate-d<sub>3</sub> is supplied as an oil. A stock solution may be made by dissolving the (±)-α-tocopherol acetate-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. (±)-α-Tocopherol acetate-d<sub>3</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide.

### Description

(±)-α-Tocopherol acetate is an acetate form of (±)-α-tocopherol (Item No. 25985), a biologically active form of vitamin E. It prevents reductions in the percentage of embryos developing into blastocysts and the levels of glutathione (GSH), as well as prevents increases in oxidative stress, in zygotes from mice exposed to heat stress prior to mating when administered to dams prior to heat stress at a dose of 1 g/kg.<sup>1</sup> (±)-α-Tocopherol acetate (>1,050 IU/kg in the diet) prevents body weight loss and prevents decreases in pulmonary dynamic compliance in mice exposed to sidestream cigarette smoke but not in sham exposure animals.<sup>2</sup> However, it also increases the levels of IL-1β, IL-4, and IFN-γ in the bronchoalveolar lavage fluid (BALF) of sidestream cigarette smoke-exposed, but not sham exposure, mice.

### References

1. Sakamoto, N., Ozawa, M., Yokotani-Tomita, K., *et al.* DL-α-Tocopherol acetate mitigates maternal hyperthermia-induced pre-implantation embryonic death accompanied by a reduction of physiological oxidative stress in mice. *Reproduction* **135**(4), 489-496 (2008).
2. Wang, S., Sun, N.N., Zhang, J., *et al.* Immunomodulatory effects of high-dose α-tocopherol acetate on mice subjected to sidestream cigarette smoke. *Toxicology* **175**(1-3), 235-245 (2002).

#### 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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