

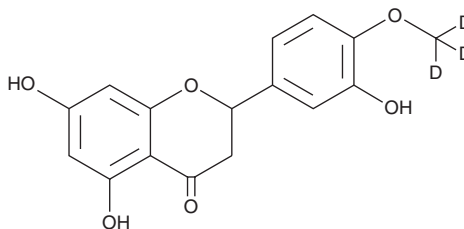
# PRODUCT INFORMATION



## *rac*-Hesperetin-d<sub>3</sub>

Item No. 35802

**CAS Registry No.:** 1346605-26-2  
**Formal Name:** 5,7-dihydroxy-2-(3-hydroxy-4-(methoxy-d<sub>3</sub>)phenyl)chroman-4-one  
**Synonym:** (±)-3',5,7-Trihydroxy-4'-methoxyflavanone-d<sub>3</sub>  
**MF:** C<sub>16</sub>H<sub>11</sub>D<sub>3</sub>O<sub>6</sub>  
**FW:** 305.3  
**Chemical Purity:** ≥95% (Hesperetin)  
**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:** ≥4 years  
**Item Origin:** Synthetic



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

### Laboratory Procedures

*rac*-Hesperetin-d<sub>3</sub> is intended for use as an internal standard for the quantification of hesperetin (Item No. 10006084) 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).

*rac*-Hesperetin-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the *rac*-hesperetin-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. *rac*-Hesperetin-d<sub>3</sub> is slightly soluble in methanol.

### Description

*rac*-Hesperetin is a racemic mixture of the flavanones (S)-hesperetin (Item No. 10006084) and (R)-hesperetin. *rac*-Hesperetin (1 mM) inhibits heat-induced advanced glycation end product formation between BSA and glucose by 56.7%.<sup>1</sup> It also inhibits α-glucosidase and protein tyrosine phosphatase 1B (PTP1B; IC<sub>50</sub>s = 15.28 and 20.16 μM, respectively).<sup>2</sup> *rac*-Hesperetin (100 μM) protects against hydrogen peroxide-induced cytotoxicity in MIN6 pancreatic beta cells by 72.27%.

### References

1. Li, D., Mitsuhashi, S., and Ubukata, M. Protective effects of hesperidin derivatives and their stereoisomers against advanced glycation end-products formation. *Pharm. Biol.* **50**(12), 1531-1535 (2012).
2. Xu, J., Wang, X., Yue, J., et al. Polyphenols from acorn leaves (*Quercus liaotungensis*) protect pancreatic beta cells and their inhibitory activity against α-glucosidase and protein tyrosine phosphatase 1B. *Molecules* **23**(9), 2167 (2018).

#### 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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