

# PRODUCT INFORMATION

## 10(E),12(Z)-Conjugated Linoleic Acid-d<sub>7</sub> Item No. 26482

**Formal Name:** 10E,12Z-octadecadienoic-16,16,17,17,18,18,18-d<sub>7</sub> acid

**Synonyms:** 10E,12Z-CLA-d<sub>7</sub>, t10,c12-CLA-d<sub>7</sub>, trans-10,cis-12-Conjugated Linoleic Acid-d<sub>7</sub>, FA 18:2-d<sub>7</sub>, 10(E),12(Z)-Octadecadienoic Acid-d<sub>7</sub>

**MF:** C<sub>18</sub>H<sub>25</sub>D<sub>7</sub>O<sub>2</sub>

**FW:** 287.5

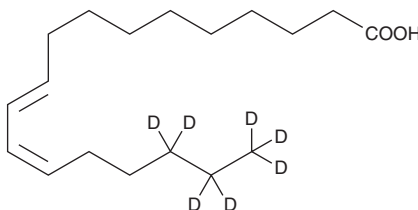
**Chemical Purity:** ≥95% (10(E),12(Z)-Conjugated Linoleic Acid) Deuterium

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>7</sub>); ≤1% d<sub>0</sub>

**Supplied as:** A 2.5 mg/ml solution in ethanol

**Storage:** -20°C

**Stability:** ≥1 year



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

### Laboratory Procedures

10(E),12(Z)-Conjugated linoleic acid-d<sub>7</sub> is intended for use as an internal standard for the quantification of 10(E),12(Z)-conjugated linoleic acid (Item No. 90145) 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).

### Description

10(E),12(Z)-Conjugated linoleic acid is an isomer of linoleic acid (Item Nos. 90150 | 21909 | 90150.1) that has been found in bovine milk products.<sup>1</sup> It binds to peroxisome proliferator-activated receptor α (PPARα; IC<sub>50</sub> = 200 nM) and activates PPARα in a reporter assay using COS-1 cells expressing the mouse receptor.<sup>2</sup> 10(E),12(Z)-Conjugated linoleic acid also inhibits stearoyl-CoA desaturase activity in mouse liver microsomes and tartrate-resistant acid phosphatase (TRAP) activity in media from primary human CD14<sup>+</sup> monocytes.<sup>3,4</sup> It induces apoptosis in LoVo and HT-29 colon cancer cells when used at a concentration of 100 μM.<sup>5</sup> 10(E),12(Z)-Conjugated linoleic acid reduces epididymal, perirenal, and subcutaneous white adipose tissue weights in hamsters fed an atherogenic diet.<sup>6</sup>

### References

- Oliveira, R., Faria, M., Silva, R., *et al. Molecules* **20**(8), 15434-15448 (2015).
- Moya-Camarena, S.Y., Heuvel, J.P.V., Blanchard, S.G., *et al. J. Lipid Res.* **40**(8), 1426-1433 (1999).
- Park, Y., Storkson, J.M., Ntambi, J.M., *et al. Biochim. Biophys. Acta* **1486**(2-3), 285-292 (2000).
- Platt, I. and El-Sohemy, A. *Lipids Health Dis.* **8**, 15 (2009).
- Kim, K.-J., Lee, J., Park, Y., *et al. Biomol. Ther. (Seoul)* **23**(2), 134-140 (2015).
- Simón, E., Macarulla, M.T., Churrua, I., *et al. J. Nutr. Biochem.* **17**(2), 126-131 (2006).

#### 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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