



**Xcess Biosciences Inc.**

7144 N Harlem Ave #169  
Chicago, IL 60631 USA

<http://www.xcessbio.com>

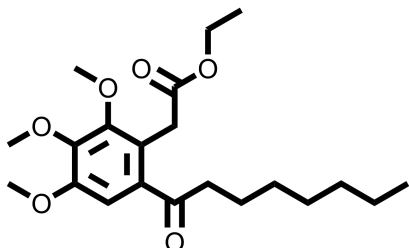
Toll free: 1-866-706-2330

Fax: 1-619- 810-0718

Email: [info@xcessbio.com](mailto:info@xcessbio.com)

## AMPK Activator TMPA

**Chemical Name:** ethyl 2-(2,3,4-trimethoxy-6-octanoylphenyl)acetate



Molecular Weight:	380.48
Formula:	C <sub>21</sub> H <sub>32</sub> O <sub>6</sub>
Purity:	≥98%
CAS#:	1258275-73-8
Solubility:	DMSO up to 100 mM
Storage	Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year

### Biological Activity:

TMPA is a novel small molecule that binds to orphan Nuclear Receptor Nur77 with high affinity ( $K_d = 1.45 \pm 0.35 \mu\text{M}$ ), and interferes with the Nur77-LKB1 interaction. TMPA's binding to Nur77 results in the release and shuttling of LKB1 to the cytoplasm to phosphorylate AMPK $\alpha$ . TMPA treatment can effectively reduce blood glucose and alleviate insulin resistance in type II db/db and high-fat diet- and streptozotocin-induced diabetic mice but not in diabetic littermates with the Nur77 gene knocked out. TMPA may serve as a powerful chemical tool to attain a mechanistic understanding of the regulation of LKB1-AMPK axis and a lead compound for the design and development of therapeutics to treat metabolic diseases.

### How to Use:

**In vitro:** TMPA was used at 10  $\mu\text{M}$  final concentration in vitro and in cellular assays.

**In vivo:** TMPA was intraperitoneally (IP) dosed to mice at 50 mg/kg once per day. Formulation: 5.0% (v/v) Tween-80 in 0.9% (w/v) saline.

### Reference:

1. Zhang YY, et al. The orphan nuclear receptor Nur77 regulates LKB1 localization and activates AMPK. (2012) Nat Chem Biol. 8(11):897-904.

Products are for research use only. Not for human use.