

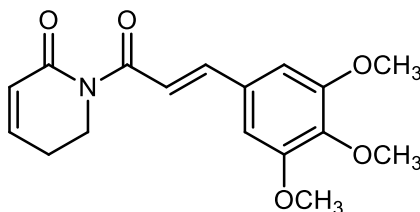
**Catalog # 10-2377**

**Piperlongumine**

CAS# 20069-09-4

(E)-1-(3-(3,4,5-trimethoxyphenyl)acryloyl)-5,6-dihydropyridin-2(1H)-one

Lot # X102147



Elevates cellular levels of reactive oxygen species selectively in cancer cell lines<sup>1</sup>. Irreversible glutathionylation leading to depletion of cellular glutathione is associated with its cellular toxicity<sup>2</sup>. Piperlongumine does not appear to have any effect on normal cells. Displays anti-tumor effects in a mouse xenograft tumor model as well as in spontaneously formed malignant breast tumors in mice<sup>1</sup>. Elevation of ROS levels may be due to inhibition of ubiquitin-proteasome system at a pre-proteasomal step.<sup>3</sup>

- 1) Raj *et al.* (2011), *Selective killing of cancer cells by a small molecule targeting the stress response to ROS.*; Nature, **475** 7355.
- 2) Adams *et al.* (2012), *Synthesis, cellular evaluation, and mechanism of action of piperlongumine analogs.*; Proc. Natl. Acad. Sci. USA, **109** 15115
- 3) Jarvius *et al.* (2013), *Piperlongumine induces inhibition of the ubiquitin-proteasome system in cancer cells.*; Biochem.Biophys.Res.Commun. 10.1016/j.bbrc.2013.01.017

**PHYSICAL DATA**

Molecular Weight:	317.34
Molecular Formula:	C <sub>17</sub> H <sub>19</sub> NO <sub>5</sub>
Purity:	98% by TLC: NMR: Conforms
Solubility:	DMSO (up to 25 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied at room temperature for up to 2 years from the date of purchase. Protect from exposure to moisture. Solutions in DMSO may be stored at -20°C for up to 3 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**