

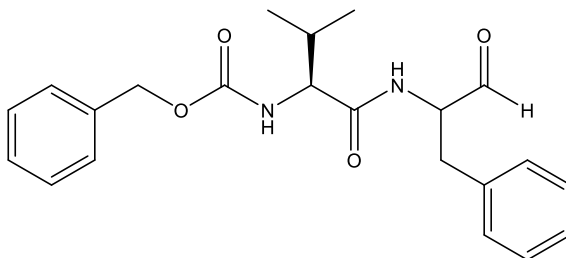
**Catalog # 10-3005**

**MDL-28170**

CAS# 88191-84-8

N-Benzyloxycarbonylvalylphenylalaninal; Z-Val-Phe-CHO; Calpain Inhibitor III

Lot # X101157



A potent and selective cell permeable calpain inhibitor. Inhibits oxidative damage-induced apoptosis in PC12 cells and capsaicin-induced apoptosis in dorsal root ganglion neurons.<sup>1</sup> It penetrates the blood-brain barrier and inhibits brain cysteine protease activity after systemic administration, ameliorating brain damage in a gerbil model of global ischemia.<sup>2</sup> Displays neuroprotective effects in neurotrauma rodent models.<sup>3</sup> Calpain I  $K_i = 8$  nM; Cathepsin B  $K_i = 24$  nM in isolated enzyme assays.  $IC_{50} = 0.3$   $\mu$ M in intact cell assay.<sup>4</sup>

- 1) Chard *et al.* (1995), *Capsaicin-induced neurotoxicity in cultured dorsal root ganglion neurons: involvement of calcium-activated proteases*; Neuroscience, **65** 1099
- 2) Li *et al.* (1998), *Postischemic treatment with calpain inhibitor MDL28170 ameliorates brain damage in a gerbil model of global ischemia*; Neurosci. Lett., **247** 17
- 3) Thompson *et al.* (2010), *A pharmacological analysis of the neuroprotective efficacy of the brain- and cell-permeable calpain inhibitor MDL-28170 in the mouse controlled cortical impact traumatic brain injury model*; J. Neurotrauma, **27** 2233
- 4) Chatterjee *et al.* (1998), *D-amino acid containing, high-affinity inhibitors of recombinant human calpain I*; J. Med. Chem., **41** 2663

**PHYSICAL DATA**

Molecular Weight:	382.45
Molecular Formula:	C <sub>22</sub> H <sub>26</sub> N <sub>2</sub> O <sub>4</sub>
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (75 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied, desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 1 month.

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