



**alomone labs**

Molecular Tools for the Neuroscience Community

**DATA SHEETS**

**Certificate of Analysis**

**Headquarters:** Alomone Labs Ltd. Har Hotzvim Hi-Tech Park P.O. Box 4287, Jerusalem 91042, Israel.

Tel: +972-2-587 2202 Fax: +972-2-587 1101 or +972-2-642 6975 email: [alomone@netvision.net.il](mailto:alomone@netvision.net.il) <http://www.alomone.com>

**PRODUCT # C-150**

**LOT # CN-08**

## CERTIFICATE OF ANALYSIS

**$\omega$ -Conotoxin MVIIC**

*(Conus magus)*

**M.W.:** 2756 daltons.<sup>1</sup>

**Sequence:** TRCKG KGAPC RKTMY DCCSG SCGRR GKCG

**Purity:** > 99% by HPLC.

**Solubility:** DDW or any other aqueous solution (pH 7.5).

### Reconstitution:

Each vial contains 30  $\mu$ g of material. Dissolving 30  $\mu$ g in 1ml of any aqueous solvent gives a stock solution of 10  $\mu$ M.

Before dissolving the toxin, the tube should first be centrifuged, to concentrate the lyophilized toxin in the bottom of the tube. After centrifuging, the toxin must be dissolved into a stock solution using distilled water, or an appropriate buffer (see below), to a concentration of  $10^{-5}$ M. After preparing the stock solution, it should be divided into aliquots and can be stored this way for up to three months at  $-20^{\circ}\text{C}$ .

### Storage and Stability:

**Lyophilized form:** 2-3 weeks at room temperature.  
One year at  $-20^{\circ}\text{C}$ .

**Liquid form:** Up to two weeks at  $4^{\circ}\text{C}$ .  
Three months at  $-20^{\circ}\text{C}$ .

Last Modified  
June 2002



**alomone labs**

Molecular Tools for the Neuroscience Community

**DATA SHEETS**

**Certificate of Analysis**

**Headquarters:** Alomone Labs Ltd. Har Hotzvim Hi-Tech Park P.O. Box 4287, Jerusalem 91042, Israel.

Tel: +972-2-587 2202 Fax: +972-2-587 1101 or +972-2-642 6975 email: [alomone@netvision.net.il](mailto:alomone@netvision.net.il) <http://www.alomone.com>

### **Known action:**

$\omega$ -Conotoxin MVIIC, blocks  $Ca_v2.1$  ( $\alpha1A$ , P/Q-type) and  $Ca_v2.2$  ( $\alpha1B$ , N-type) channels.<sup>1</sup> The toxin binds with high affinity to  $Ca_v2.1$  and with lower affinity to  $Ca_v2.2$  in rabbit brain.<sup>2</sup> However, the block by  $\omega$ -conotoxin-MVIIC, of N-type channels in DRG neurons developed much faster than the block of P-type currents in Purkinje cells.<sup>1</sup> The effect of the toxin is modulated by voltage (i.e. it is more potent for inactivated channels).<sup>3</sup> In addition this toxin was reported to block nicotinic receptors (transiently expressed in *Xenopus* oocytes) with  $IC_{50}$  of  $1.3 \mu M$ .<sup>4</sup>

### **Bioassay:**

This lot was tested to confirm its ability to inhibit  $K^+$ -induced  $^3H$ -GABA release in hippocampus *in vivo*<sup>5</sup>. This effect was with high affinity (50% block, 200 nM). The toxin was used to inhibit synaptic transmission in several peripheral preparations.<sup>6, 7</sup> It blocked cloned  $Ca_v2.2$  channels transiently expressed in *Xenopus* oocytes.<sup>3</sup>

### **References:**

1. McDonough, S. I. *et al.* (1996) *J. Neurosci.* **16**, 2612.
2. Liu, H. *et al.* (1996) *J. Biol. Chem.* **271**, 13804.
3. Stocker, J. W. *et al.* (1997) *J. Neurosci.* **17**(9), 3002.
4. Herrero, C. J. *et al.* (1999) *Br. J. Pharmacol.* **127**, 1375.
5. Newcomb, R. *et al.* (1994) *Brain. Res.* **638**(1-2), 95.
6. Vega, T. *et al.* (1995) *Eur. J. Pharmacol.* **276**(3), 231.
7. Hirata, H. *et al.* (1997) *Eur. J. Pharmacol.* **321**(2), 217.