

Molecular Tools for the Neuroscience Community

Compound	Properties	Storage Stability		Specific Ca <sup>2+</sup> Channel Blockage Activity and Recommended Effective Concentrations	Recommended References
	M.W.	Lyophilized	Solution		
		Solubility			
<b>ω-Agatoxin IVA</b> <i>Agelenopsis aperta</i> 5 μg (>99%)	5202 Water	R.T.: 3 weeks -20°C: One year	4°C: One week -20°C: 3 months	<b>P-/Q-types</b> ; 20 nM-1 μM	Mintz.I.M. <i>et al.</i> (1992) <i>Nature</i> <b>355</b> , 827.
<b>ω-Agatoxin TK</b> <i>Agelenopsis aperta</i> 5 μg (>99%)	5273 Water	R.T.: 3 weeks -20°C: One year	4°C: One week -20°C: 3 months	<b>P-/Q-types</b> ; 20 nM-1 μM	Teramoto, T. <i>et al.</i> (1995) <i>Neuroreport</i> <b>6</b> , 1684.
<b>(±)-Bay K 8644</b> 1 mg (>99%)	356.3 DMSO	R.T.: 3 weeks -20°C: Two years	4°C: 2 weeks -20°C: 3 months	Active <b>L-type</b> , voltage-gated Ca <sup>2+</sup> channel agonist; 1 μM.	Hes, P. <i>et al.</i> (1984) <i>Nature</i> <b>311</b> , 538. Nowycky, M.C. <i>et al.</i> (1985) <i>PNAS USA</i> <b>82</b> , 2178.
<b>Calcicludine</b> <i>Dendroaspis angusticeps</i> 70 μg (>98%)	6979 Water	R.T.: 3 weeks -20°C: Two years	4°C: 4 weeks -20°C: 6 months	<b>Neuronal L-type</b> ; 1-10nM	Schweitz, H. <i>et al.</i> (1994) <i>P.N.A.S. USA</i> <b>91</b> , 878.
<b>Calciseptine</b> <i>Dendroaspis p. polylepis</i> 70 μg (>98%)	7036 Water	R.T.: 3 weeks -20°C: One year	4°C: 2 weeks -20°C: 3 months	<b>L-type</b> ; 100nM-2μM	De Weille, J.R. <i>et al.</i> (1991) <i>P.N.A.S. USA</i> <b>88</b> , 2437.
<b>ω-Conotoxin GVIA</b> <i>Conus geographus</i> 0.1 mg (>99%)	3037 Water	R.T.: 3 weeks -20°C: One year	4°C: 4 weeks -20°C: 3 months	<b>N-type</b> ; 100nM-1μM	Olivera, B.M. <i>et al.</i> (1985) <i>Science</i> <b>230</b> , 1338.
<b>ω-Conotoxin MVIIA</b> <i>Conus magus</i> 50 μg (>99%)	2639 Water	R.T.: 3 weeks -20°C: One year	4°C: 4 weeks -20°C: 3 months	<b>N-type (reversible)</b> ; 100nM-2μM	Olivera, B.M. <i>et al.</i> (1987) <i>Biochemistry</i> <b>26</b> , 2086.
<b>ω-Conotoxin MVIIC</b> <i>Conus magus</i> 30 μg (>99%)	2756 Water	R.T.: 3 weeks -20°C: One year	4°C: 4 weeks -20°C: 3 months	<b>Q-type</b> , 50nM-1μM	Hillyard, D.R. <i>et al.</i> (1992) <i>Neuron</i> <b>9</b> , 69.
<b>ω-Conotoxin SVIB</b> <i>Conus striatus</i> 50 μg (>99%)	2739 Water	R.T.: 3 weeks -20°C: One year	4°C: 4 weeks -20°C: 3 months	<b>N- and non-N-type</b> ; 100nM-2μM	Fox, J.A. (1994) <i>Neurosci. Lett.</i> <b>165</b> , 157.

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<b>FS-2</b> <i>Dendroaspis p. polylepis</i> 70 µg (>98%)		7004 Water	R.T.: 3 weeks -20°C: One year	4°C: 2 weeks -20°C: 3 months	<b>L-type</b> ; 100nM-2µM.	Jean-Pierre, A. <i>et al.</i> (1995) <i>Biochemistry</i> <b>34</b> , 5923. Wanatabe, T.X. <i>et al.</i> (1995) <i>Jpn. J. Pharmacol.</i> <b>68</b> , 305.
<b>ω-Grammotoxin SIA</b> <i>Grammostola spatulata</i> 5 µg (>98%)		4113 Water	R.T.: 3 weeks -20°C: One year	4°C: 2 weeks -20°C: 3 months	<b>N-type, P-type</b> ; ω-Grammotoxin SIA potently inhibits both Ca <sub>v</sub> 2.1 (P-type) and Ca <sub>v</sub> 2.2 (N-type) channels by altering the voltage-dependence of channel gating.	Lampe R. A., <i>et al.</i> , (1993) <i>Mol. Pharmacol.</i> <b>44</b> , 451. Piser T. M., <i>et al.</i> , (1995) <i>Mol. Pharmacol.</i> <b>48</b> , 131. McDonough S. I., <i>et al.</i> , (1997) <i>Mol. Pharmacol.</i> <b>52</b> , 1095.
<b>Nifedipine</b> 100 mg (>98%)		346.34 DMSO	R.T.: 3 years	4°C: One week -20°C: 3 months	<b>L-type</b> ; 1-10 µM	Triggle, D.J. & Janis, R.A. (1987) <i>Annu. Rev. Pharmacol. Toxicol.</i> <b>27</b> , 34.
<b>Nimodipine</b> 5 mg (>99%)		418.45 Methanol	R.T.: 3 years	4°C: 2 weeks -20°C: 3 months	<b>L-type</b> ; 1-2 µM	Triggle, D.J. & Janis, R.A. (1987) <i>Annu. Rev. Pharmacol. Toxicol.</i> <b>27</b> , 34.
<b>Pimozide</b> 5 mg (>98%)		461.6 DMSO	R.T.: 3 years	4°C: 2 weeks -20°C: 3 months	<b>T-type channel blocker</b> , IC <sub>50</sub> =40 nM for Ca <sub>v</sub> 3.1-3 expressed in HEK cells. In <i>Xenopus</i> oocytes IC <sub>50</sub> =3 µM for Ca <sub>v</sub> 3.1.	Santi, C.M. <i>et al.</i> (2002) <i>J. Neurosci.</i> <b>22</b> , 396.
<b>PLTX-II</b> <i>Plectreuryx tristis</i> 5 µg (>99%)		5109 Water	R.T.: 3 weeks -20°C: One year	4°C: One week -20°C: 3 months	<b>Insect neuronal types</b> , 10-50 nM	Leung, H.-T. <i>et al.</i> (1989) <i>Neuron</i> <b>3</b> , 767.
<b>SNX-482</b> <i>Hysterocrates gigas</i> 5 µg (>98%)		4495 Water	R.T.: 3 weeks -20°C: One year	4°C: One week -20°C: 3 months	<b>R-type channel blocker</b> : IC <sub>50</sub> =15-30 nM.	Newcomb, R. <i>et al.</i> (1998) <i>Biochemistry</i> <b>37</b> , 15353. Bourniet, E. <i>et al.</i> (2001) <i>Biophys. J.</i> <b>81</b> ,

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						79. Wang, G. <i>et al.</i> (1999) <i>J. Neurosci.</i> <b>19</b> , 9235.
<b>TaiCatoxin</b> <i>Oxyuranus s. scutellatus</i> 0.1 mg (>97%)		52,000 Water	R.T.: 3 weeks -20°C: One year	4°C: 2 weeks -20°C: 3 months	<b>L-type</b> ; 50-500nM	Possani, L.D. <i>et al.</i> (1992) <i>Toxicon</i> <b>30</b> , 1343.
<b>Waglerine-I</b> <i>Trimeresurus wagleri</i> 0.1 mg (>95%)		2520 Water	R.T.: 3 weeks -20°C: 2 years	4°C: 4 weeks -20°C: 6 months	<b>L-type</b> ; 2-6 μM	McArdle, J.J. <i>et al.</i> (1992) <i>Soc. Neurosci. Abstr.</i> <b>18</b> , 969.

**Toxin Dissolution:**

Recommended stock solution for the above-mentioned toxins is as follows: 0.1% BSA, 100 mM NaCl, 10mM Tris (pH 7.5) and 1 mM EDTA. An addition of 0.01% BSA to experimental solutions before applying the toxin is essential. Following the above storage and stability recommendations, one can aliquoting the toxin into ependorf tubes and freezing them for later experimentation.

**Data Sheets:**

Individual data sheets can be downloaded from our Web Site: (<http://www.alomone.com>).