Calcicludine II
from *Dendroaspis angusticeps*

Product Number  C 2836
Storage Temperature −0 °C

Sequence:
WQPPWYCKEP VRIGSCKQF SSFYFKWTAK
KCLPFLFSGC GGNANRFQTI GECRKCLGK
Disulfide bonds:  C⁷−C⁵⁷, C¹⁶−C⁴⁰, C³²−C⁵³

Product Description
Calcicludine II is a 60-amino acid monomeric peptide (6,999.8 Da) with three disulfide bridges that is isolated from the venom of *Dendroaspis angusticeps* (eastern green mamba). It is a basic peptide with a calculated pI of 10.3. Calcicludine II is structurally homologous to the dendrotoxins, which block potassium channels, and to the Kunitz-type protease inhibitors.¹ NMR structure analysis has determined that the differences between calcicludine and dendrotoxin lie in the amino-terminus of the peptides and may account for the selectivity of these peptides for calcium and potassium channels, respectively.²

Calcicludine II is a potent and selective blocker of high voltage-activated Ca²⁺ channels (L-, N-, and P-type). Sensitivity to calcicludine II is tissue- and species-specific. It is a highly potent blocker of neuronal L-type channels. Its highest inhibitory potency was on L-type channels in rat cerebellar granule cells, exhibiting an EC₅₀ of 0.2 nM. In contrast, rat skeletal muscle L-type channels were not affected by calcicludine II. Chicken dorsal root ganglion (DRG) N-type channels were more sensitive than rat DRG N-type channels to the inhibitor. Calcicludine II blocked P-type channels with EC₅₀s in the 1-5 nM range.¹

Precautions and Disclaimer
This product is for laboratory research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Calcicludine II from *Dendroaspis angusticeps* is readily soluble in water.

Storage/Stability
Calcicludine II is very stable and should be stored as supplied at −0 °C.

References

DMG 11/02