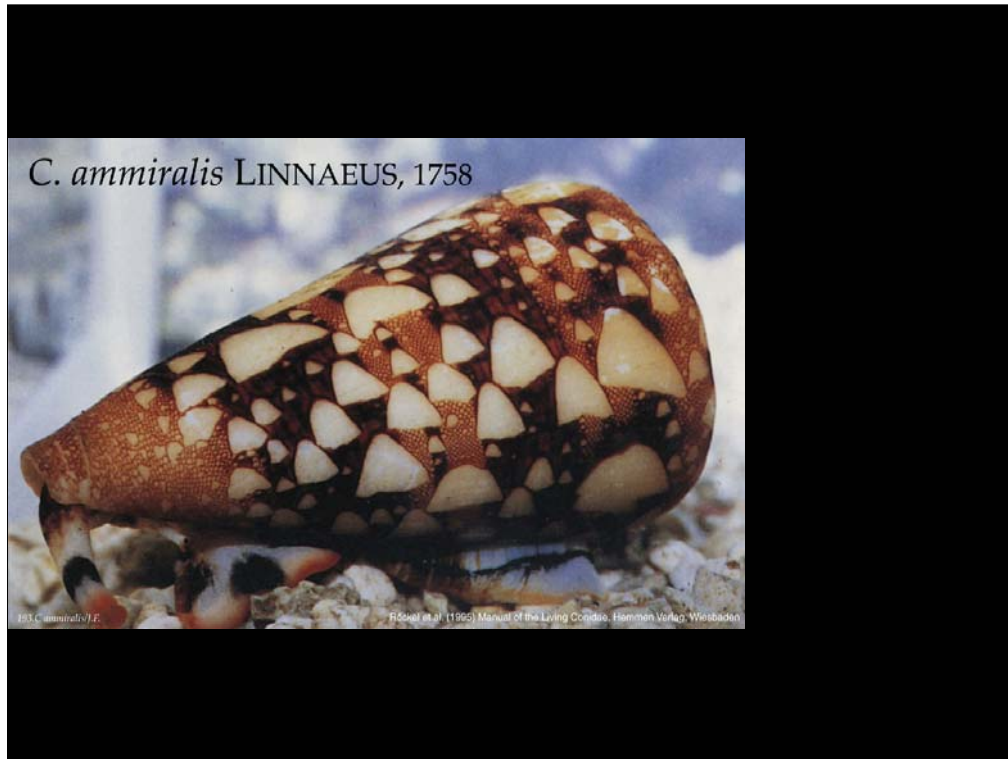


Conus Peptides

Baldomero "Toto" Olivera
Department of Biology, University of Utah



I
Historical Background
Discovery of a Drug

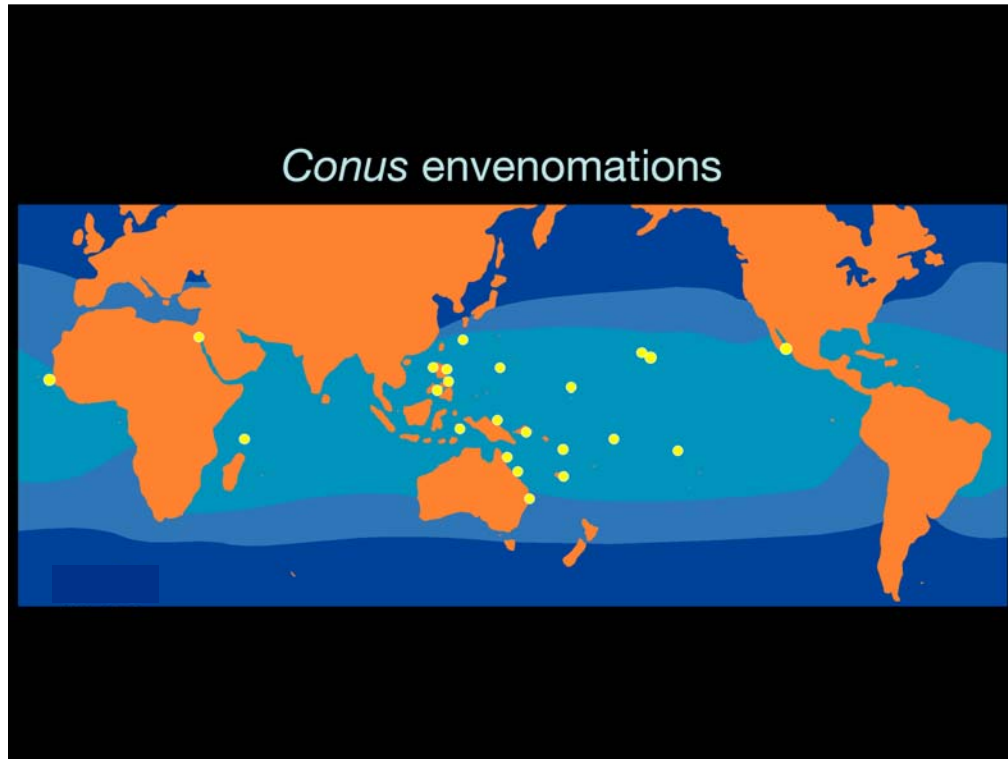




Conus cedorulli ("the matchless cone")

Vermeer
Woman in Blue Reading a Letter





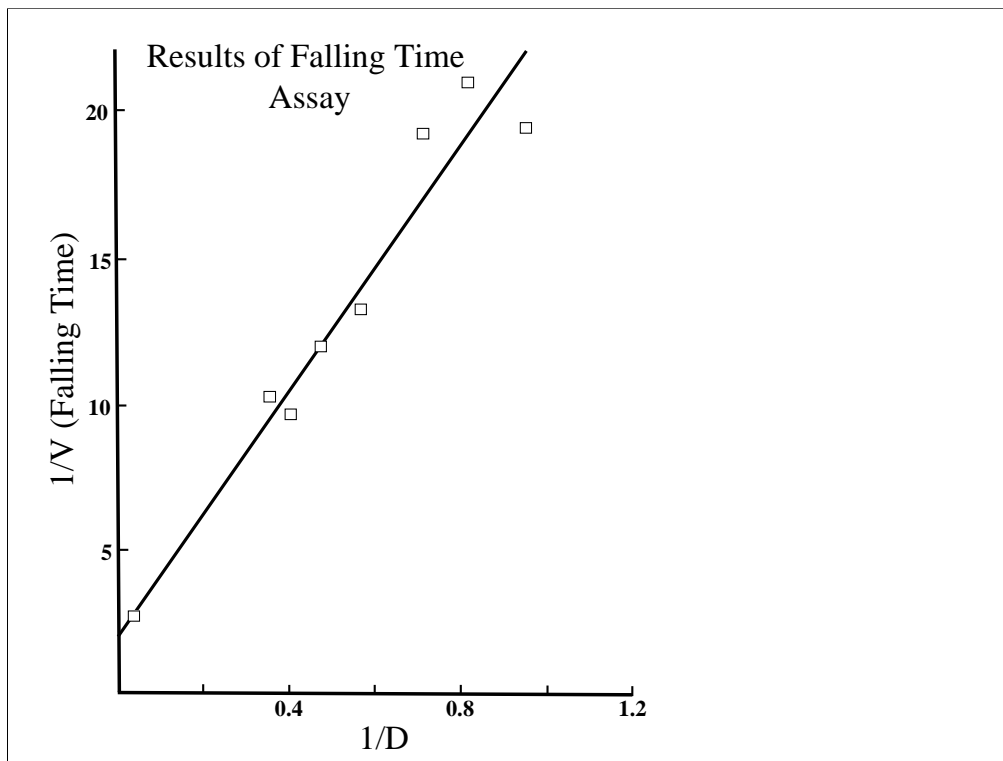
The most dangerous snail

The Geography Cone
Conus geographus

~70% of untreated human
stinging cases are fatal





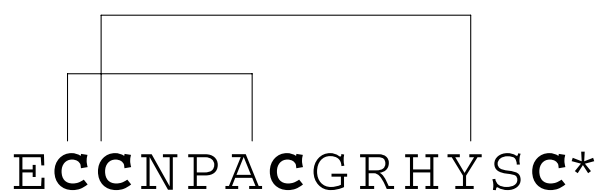


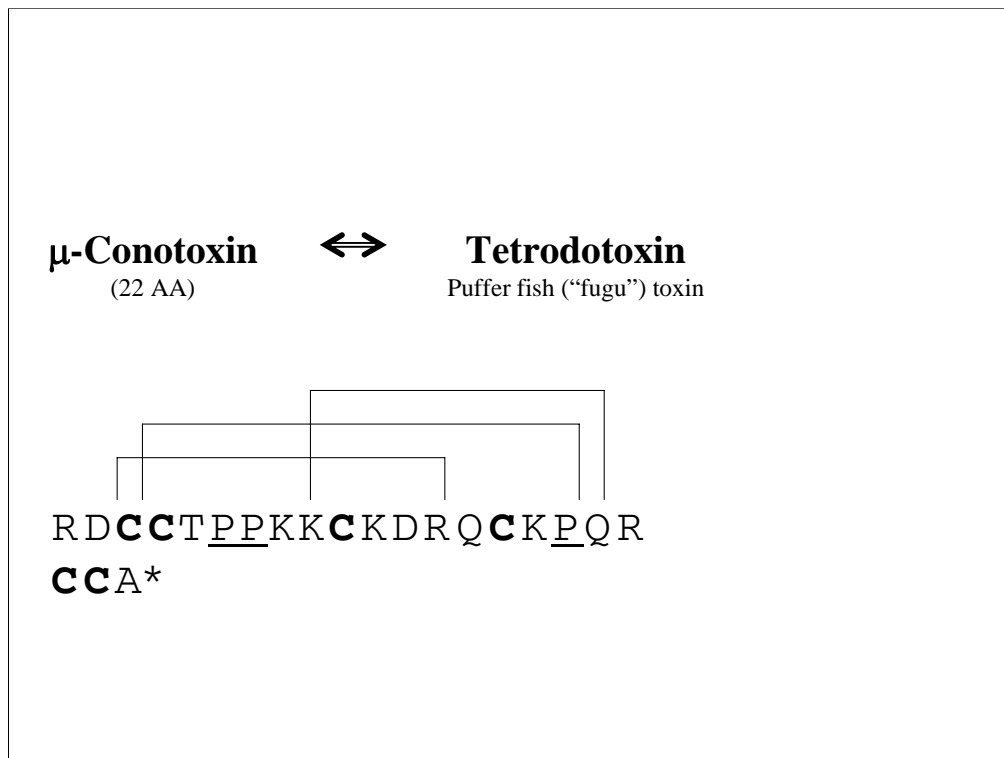
First Conus peptide characterized
(Lourdes Cruz)

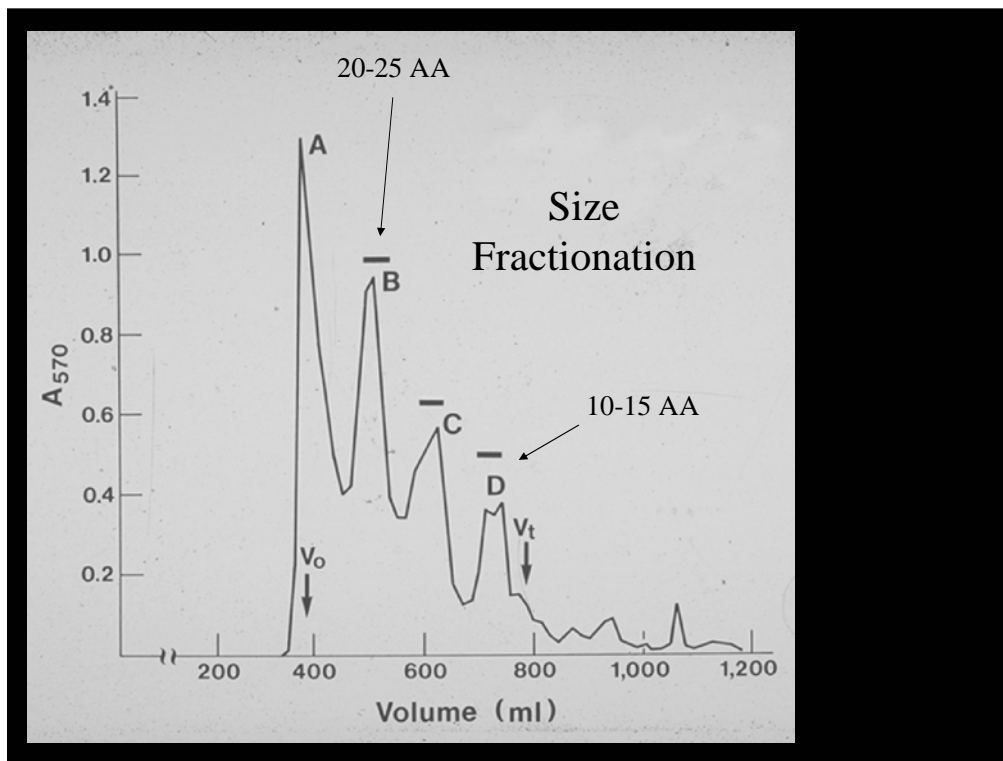
α -Conotoxin GI \longleftrightarrow **Cobratoxin**
(13 amino acids) α -Bungarotoxin
(60-80 amino acids)

Most biologically active *Conus* venom components:

SMALL DISULFIDE-RICH PEPTIDES
(10-30 AA)

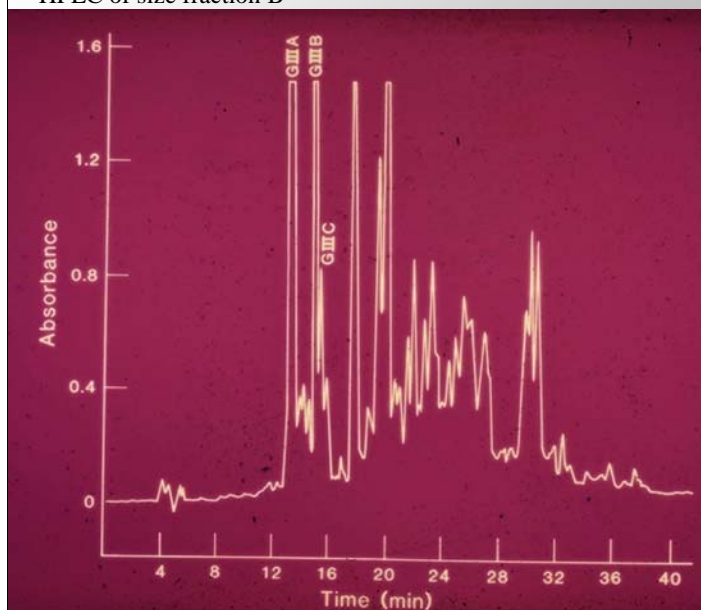


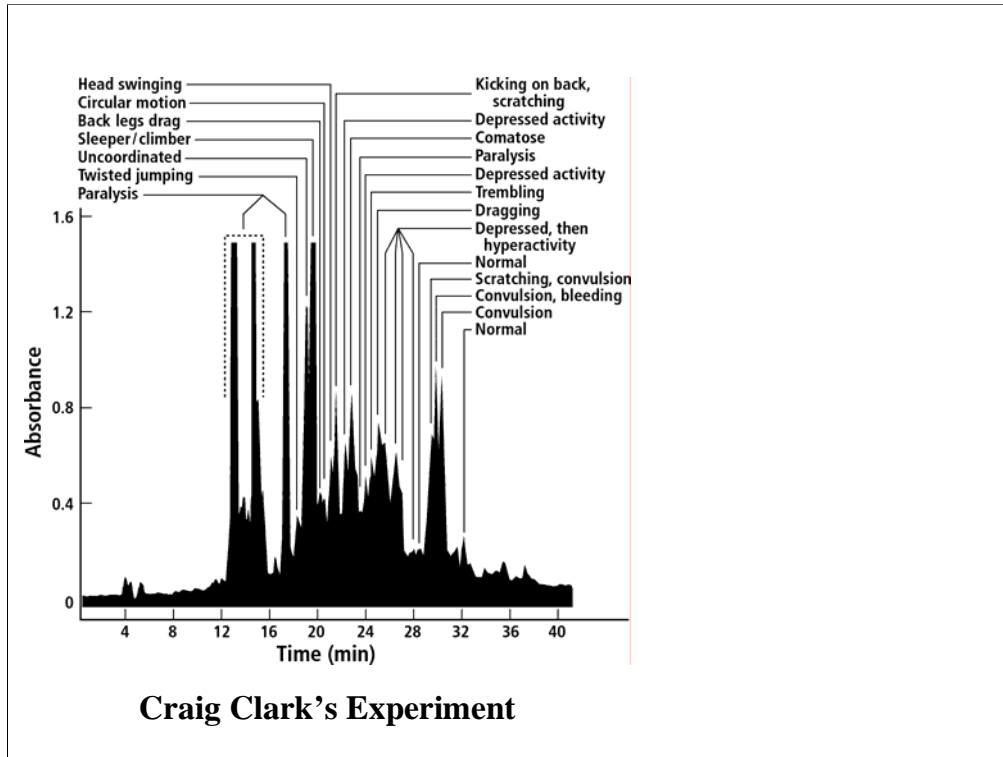


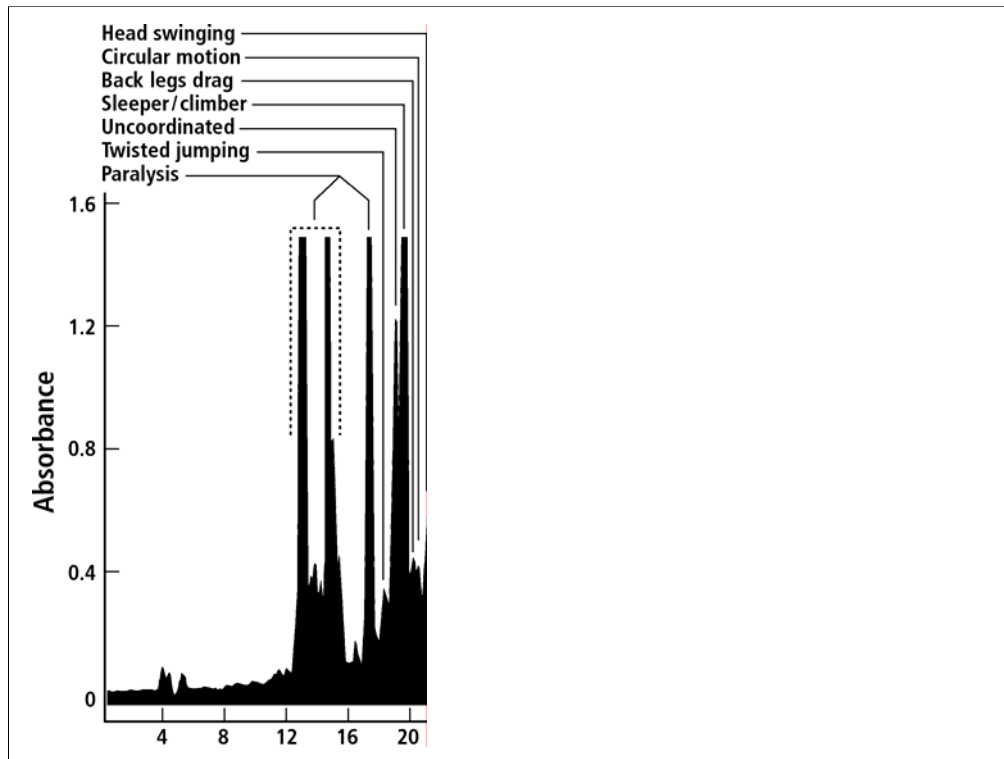


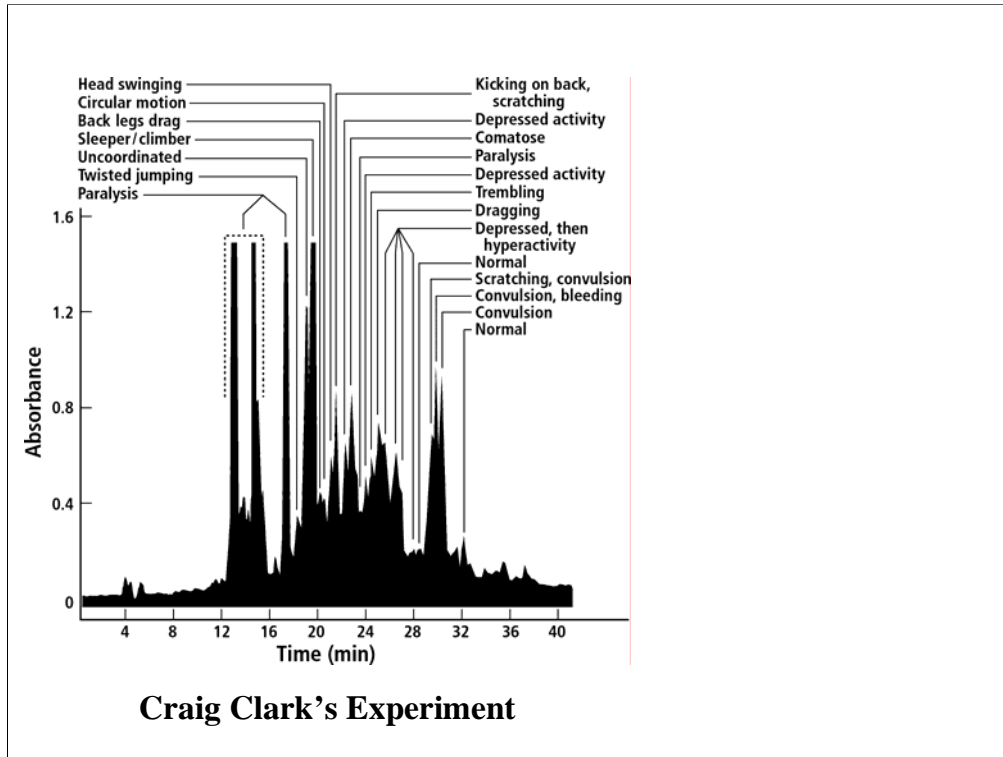
Fractionation of *C. geographus* venom

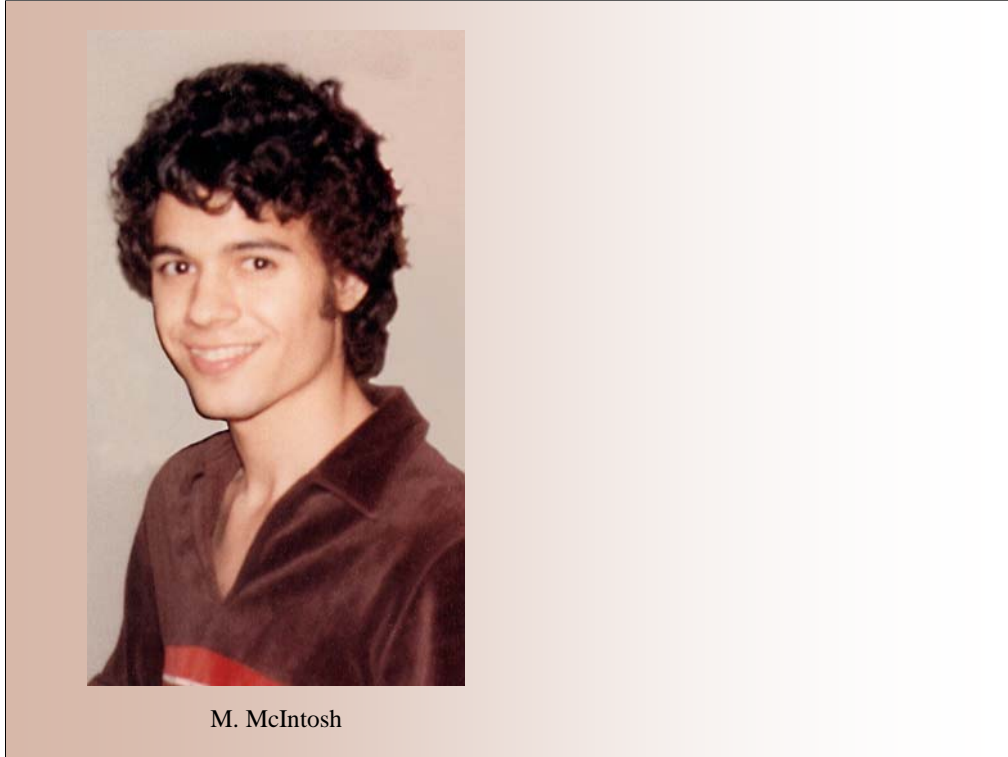
HPLC of size fraction B





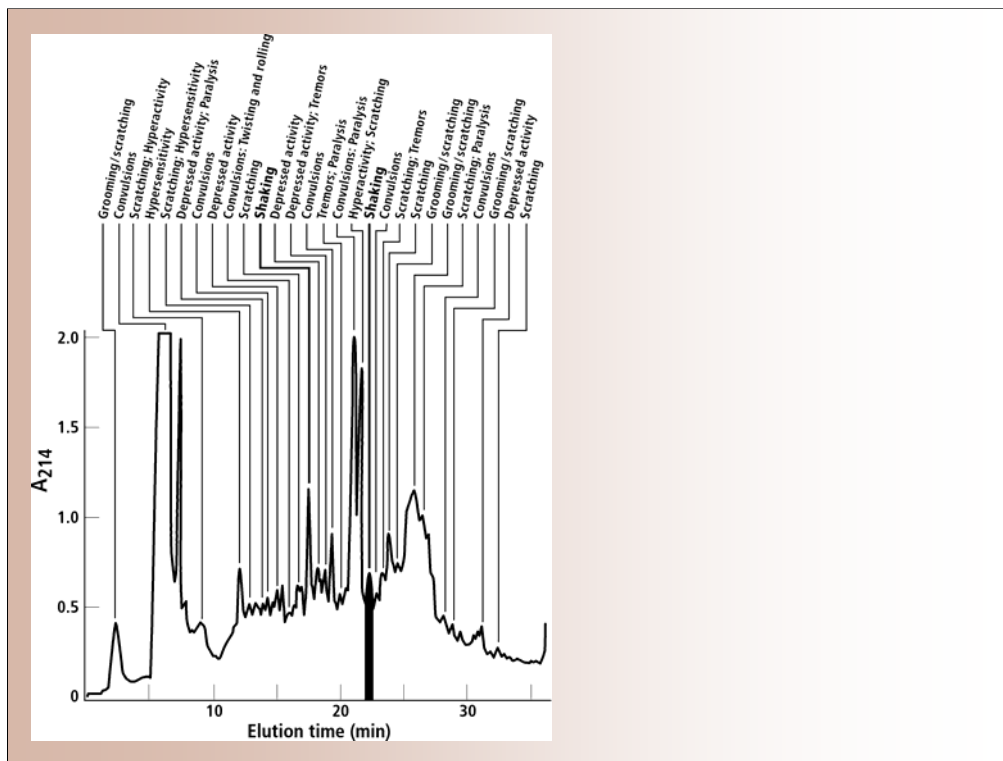


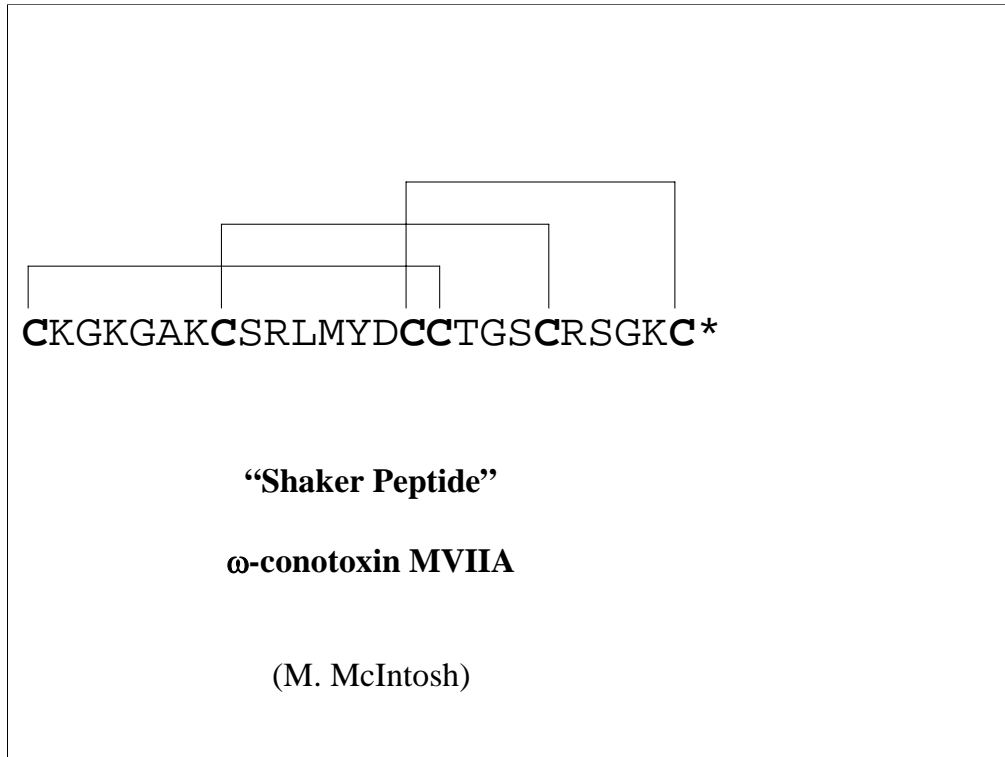


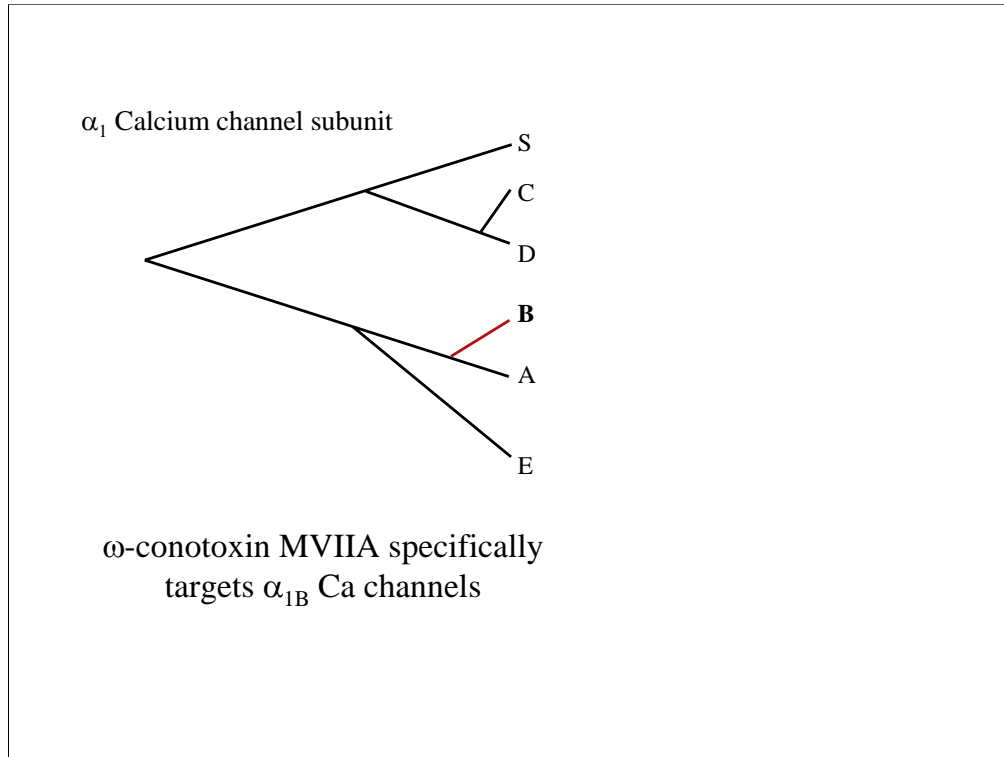


M. McIntosh









ω -conotoxin MVIIA
Prialt (Ziconitide)

Approved by FDA, December 2004

DRUG FOR
INTRACTABLE PAIN

