TETRODOTOXIN (TTX)

Symptoms
Numbness, facial and limb paralysis, headache, abdominal pain, dizziness
Paralysis in main muscles, respiratory problems, irregular heart beat, seizure, death

Exposure
Found in sex organs of fish, amphibians, octopi, and shellfish
• Na channels immune to TTX
Food contamination
Eating raw fish
Fatal dose: 1 mg
EFFECTS ON THE NERVOUS SYSTEM

Guanidino group on TTX binds to carboxylate group on Na channels

Blocks Na channels, eventually stopping INa altogether

→ Action potentials cease to fire
→ Stops signals traveling from nerves to muscles
REFERENCES

http://www.cdc.gov/niosh/ershdb/emergencyresponsecard_29750019.html
http://www.life.umd.edu/grad/mlfsc/zctsim/ionchannel.html