

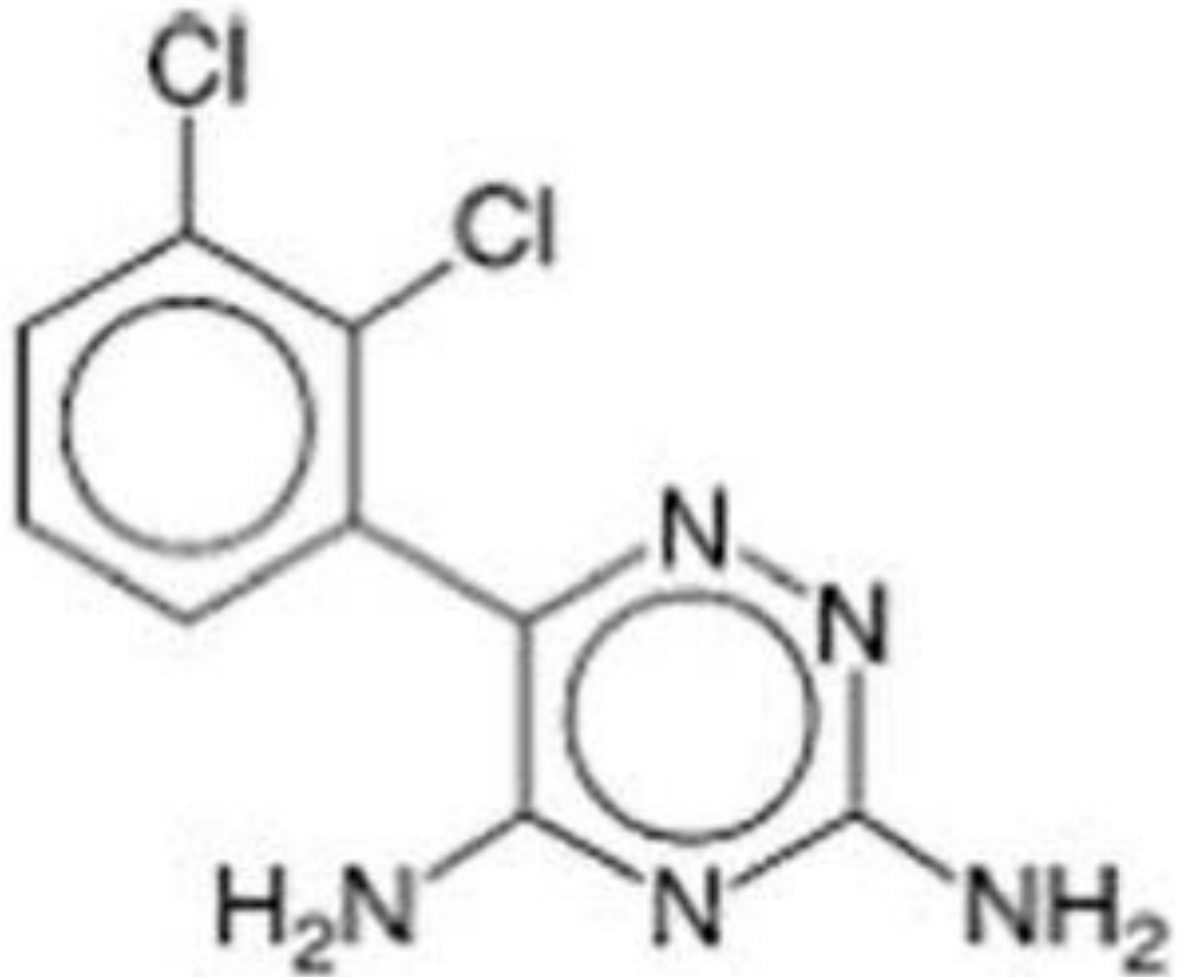
Lamictal (aka Lamotrigine)

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Outline

- What is Lamictal?
- How does it work?
- What is Lamictal's mechanism of action?



What is Lamictal?

- An antiepileptic drug used to treat some seizure disorders
- May also be used to treat Bipolar disorders (1 & 2)



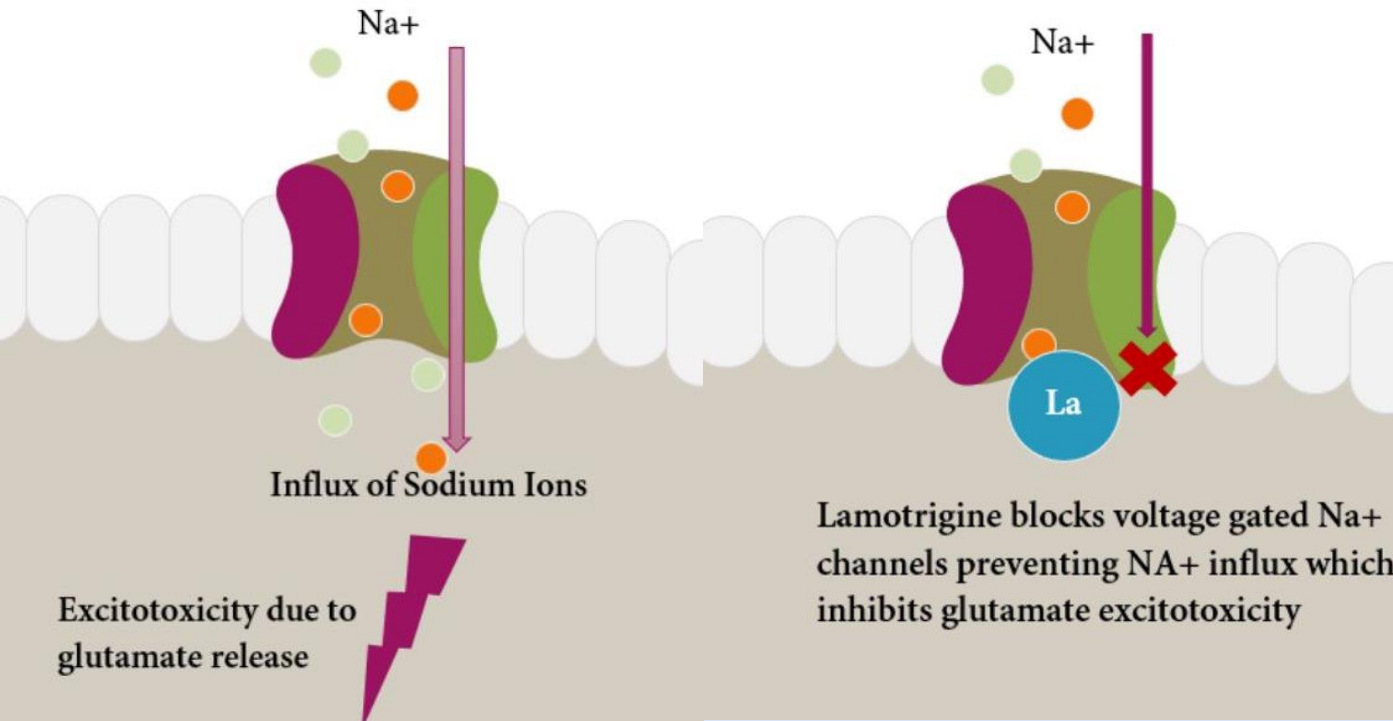
How does Lamictal (LTG) work?

- LTG is an antagonist
- LTG blocks voltage dependent Na⁺ channels
- Inhibits the release of glutamate and aspartate
- Also binds (weakly) to other signaling receptors in the brain

How does Lamictal (LTG) work?

Cont.

Voltage Gated Sodium (Na^+) Channels

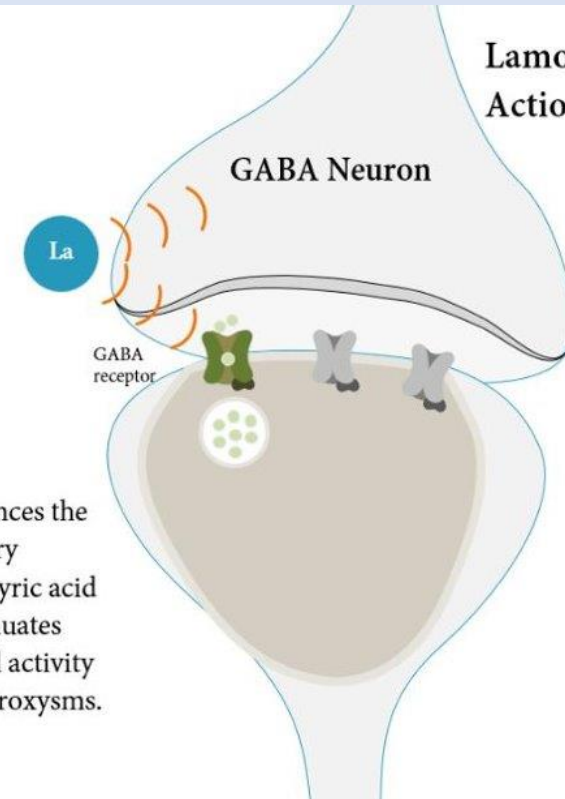


Voltage Gated Sodium (Na^+) Channels



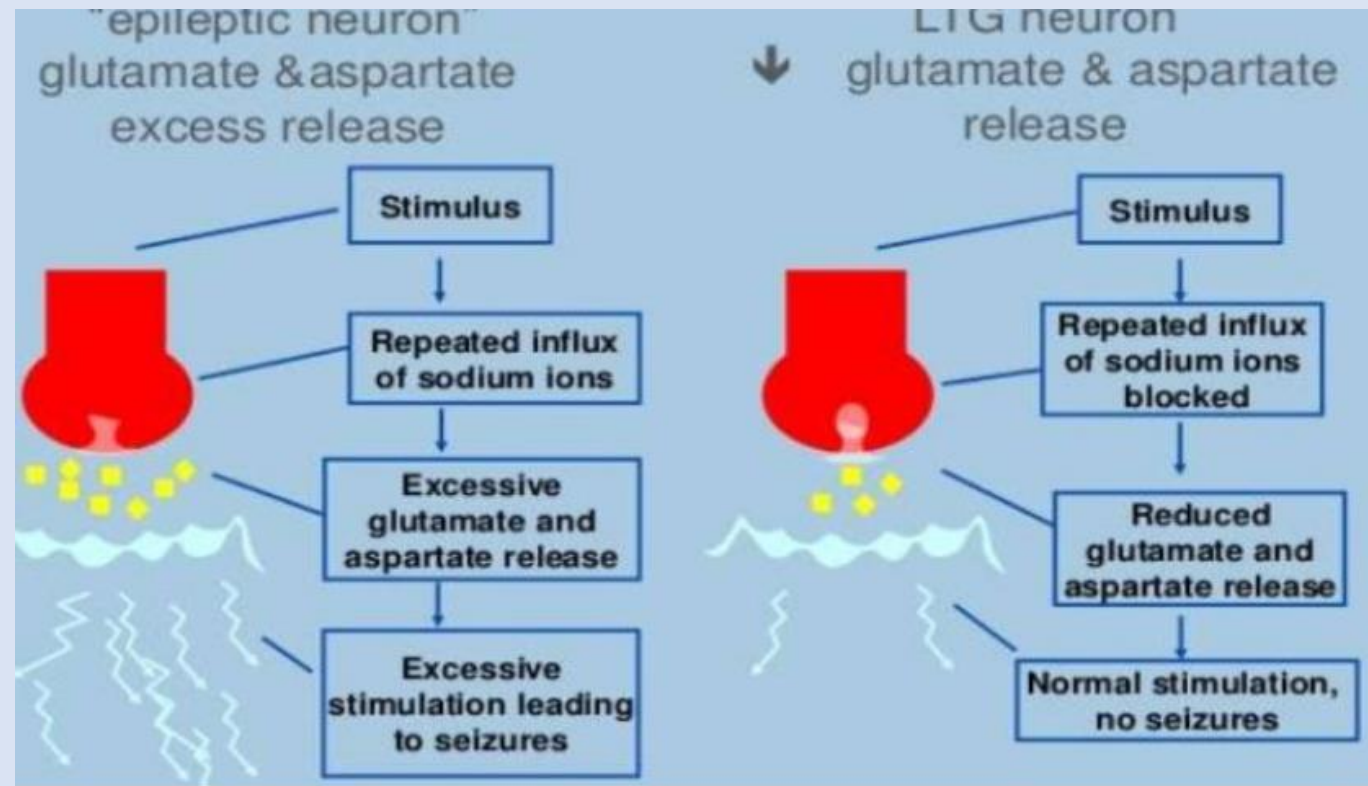
Lamotrigine enhances the release of inhibitory gamma-aminobutyric acid (GABA) that attenuates neuronal electrical activity associated with paroxysms.

Lamotrigine Mechanism of Action



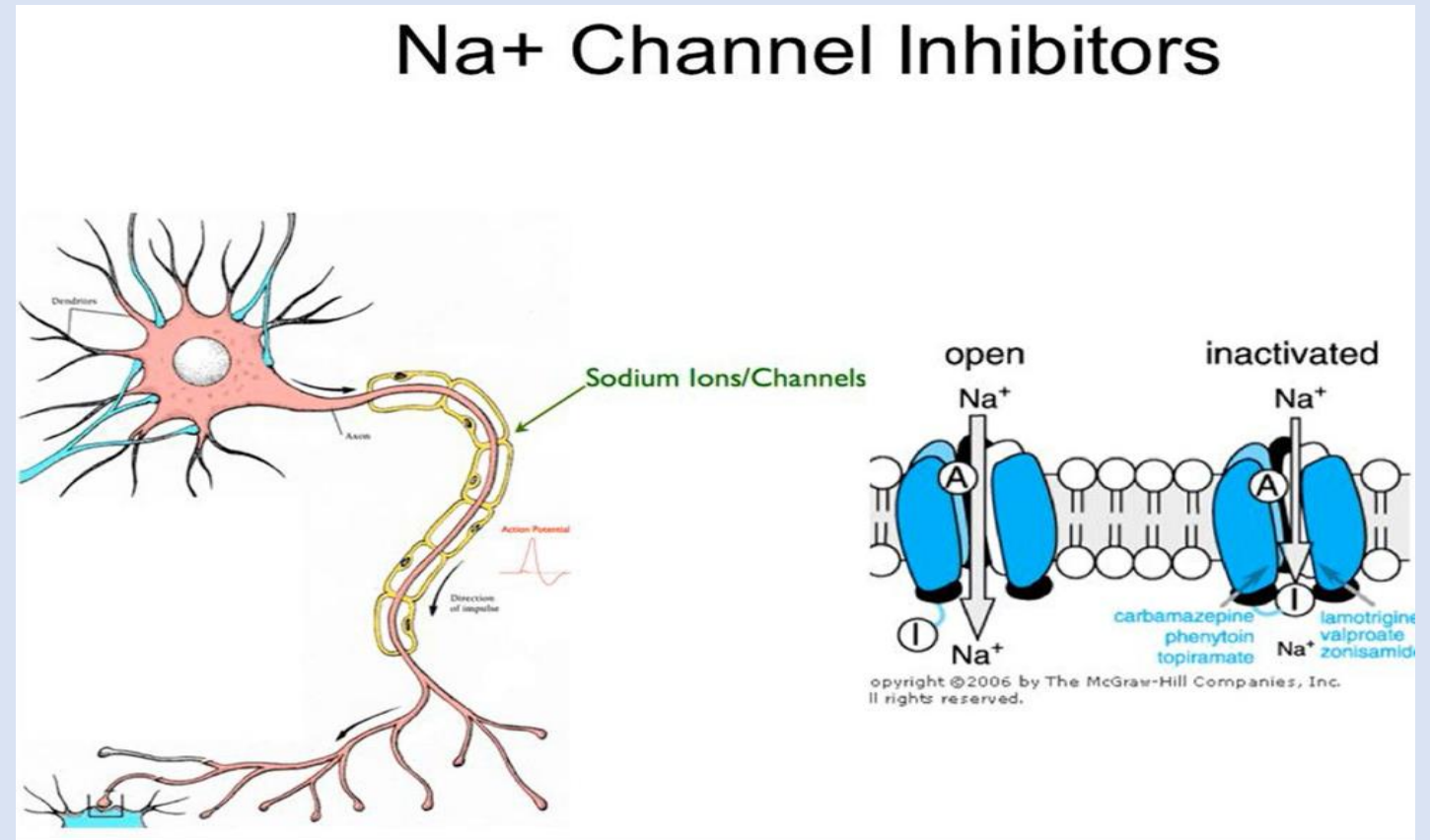
Mechanism of action

- LTG is administered
- Antagonize voltage gated Na^+ channels
- Binds to channels
- Suppresses signaling molecules
- Brain cells are now slowed down



Mechanism of action Cont.

- Mechanism of action occurs over 2 kinetic time courses (fast and slow)



Summary

- A prescription drug
- An antagonist to Na⁺ channels

Resources

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