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# Thorazine: Antipsychotic drug

— Jenni and Ethan —

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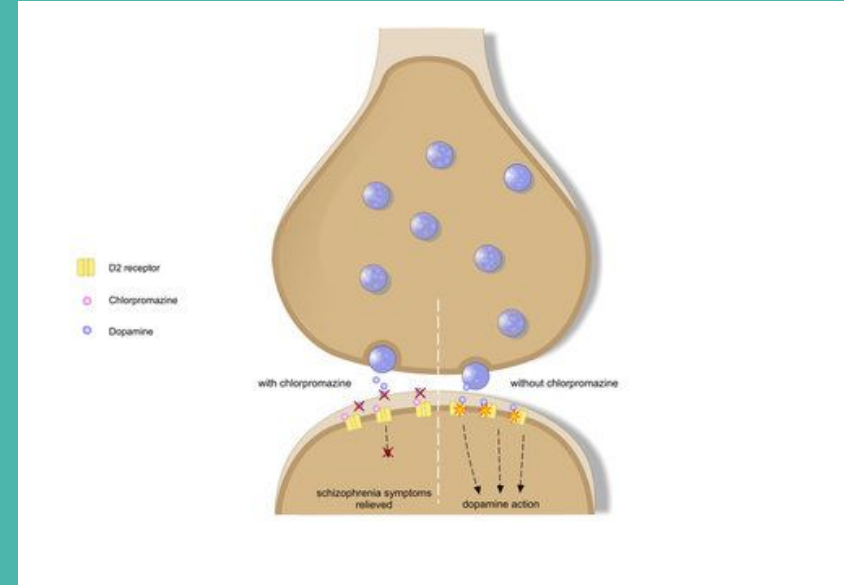
# What is Thorazine? / History

- It is used to treat certain mental/mood disorders (schizophrenia, psychotic disorders, manic phase of bipolar disorder, severe behavioral problems in children)
- Was discovered by Smith-Kline & the French, thorazine received Food & Drug Administration approval for psychiatric treatment in 1954
- Recognized as the first antipsychotic drug that helped with the mental health movements of 1960s and 1970s



# Mechanism of Therapeutic action

- Thorazine is an antagonist of many neurotransmitter receptors, like dopamine
- By binding to the receptor in the place of dopamine, it prevents it from accessing the receptor to block the transmission
- It works by helping to restore the balance of certain natural substances in the brain
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- The worst visible side effect is Tardive dyskinesia



# Cost?

- The average retail cost of Chlorpromazine Hcl without health insurance is \$172.16 per 100, 25MG Tablet
- Thorazine was discontinued in 2005 due to serious side effects but other versions are still available in the US for sale



## Other Names:

- Hibanil
- Hibernal
- Kloprpromex
- Largactil
- Largactil
- Megaphen
- Promacid
- Promacid
- Chloractil
- Sonazine
- Taroctyl
- Chlorpromazine
- Torazina

## CAS registry:

69 - 09 - 0



## Side effects

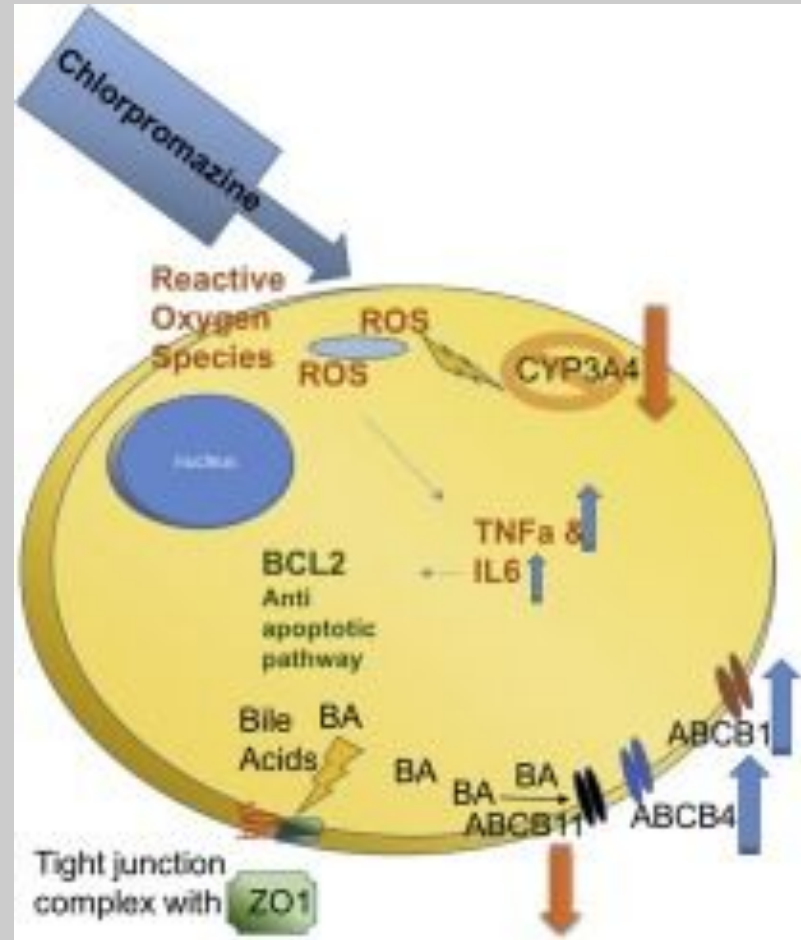
Drowsiness, dizziness, lightheadedness, dry mouth, blurred vision, tiredness, nausea, constipation, weight gain, or trouble sleeping

Long-term use can cause a serious movement disorder that may not be reversible/ severe cardiac arrhythmias

# Toxicity

Thiorazine is associated with disruption of cell membrane integrity and initiation of a pro-inflammatory response in the HepaRG hepatic cell line

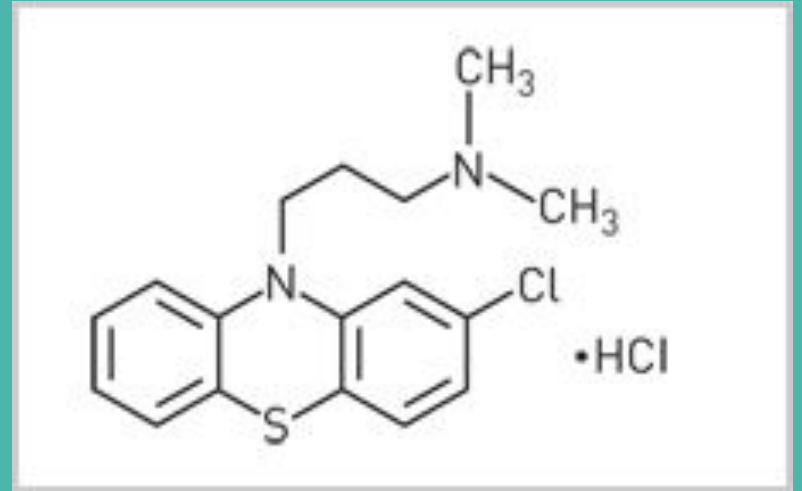
Due to this it was discontinued and replaced with chlorpromazine



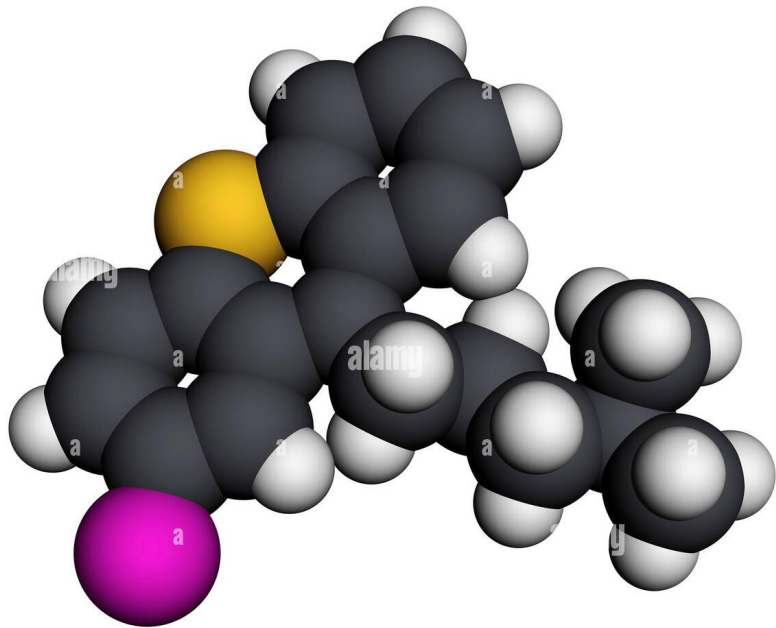
# Chemical Formula and Structure

C<sub>17</sub>H<sub>19</sub>ClN<sub>2</sub>S

( 2-Chloro-N,N-dimethyl-10H-  
phenothiazine-10-propanamine  
Hydrochloride )

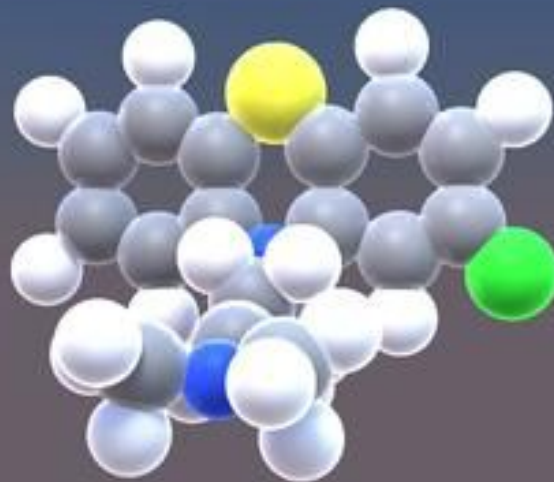


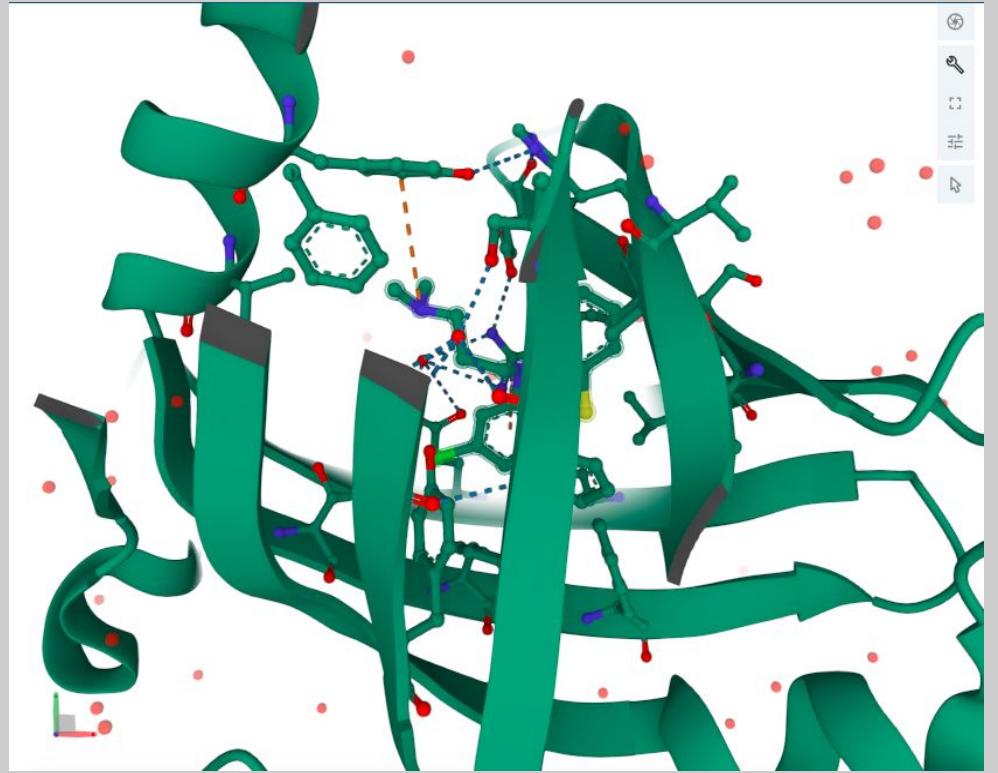
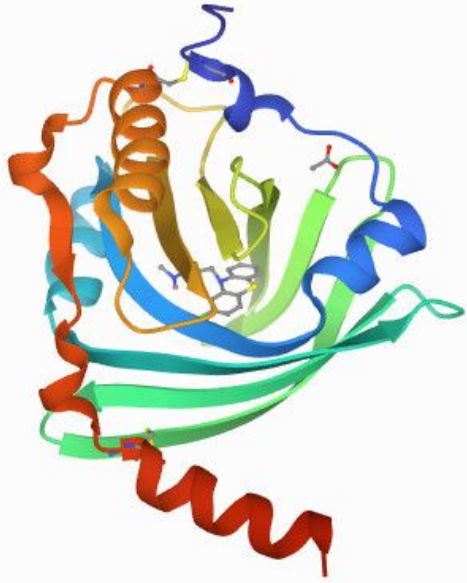




**Chlorpromazine**

**Molecular structure of Chlorpromazine  
(Thorazine) - antipsychotic medication,  
3D rendering**





Crystal structure of the A variant of human alpha1-acid glycoprotein and chlorpromazine complex

# Opinion on the Drug

Ethan: I think it's a very good drug that I should be taking on the dailiy

Jenni: Good because it helped a lot of mental people but side effects were way too severe



## References

<http://pubsapp.acs.org/cen/coverstory/83/8325/8325thorazine.html>

[Thorazine-side-effects-drug-center.htm](#)

<https://pubchem.ncbi.nlm.nih.gov/compound/Chlorpromazine>