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Chemistry & Biology
Review

RNA-Based Therapeutics: Current Progress and Future Prospects

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RNA Targeting Therapeutics: Molecular Mechanisms of Antisense Oligonucleotides as a Therapeutic Platform

C. Frank Bennett and Eric E. Swayze

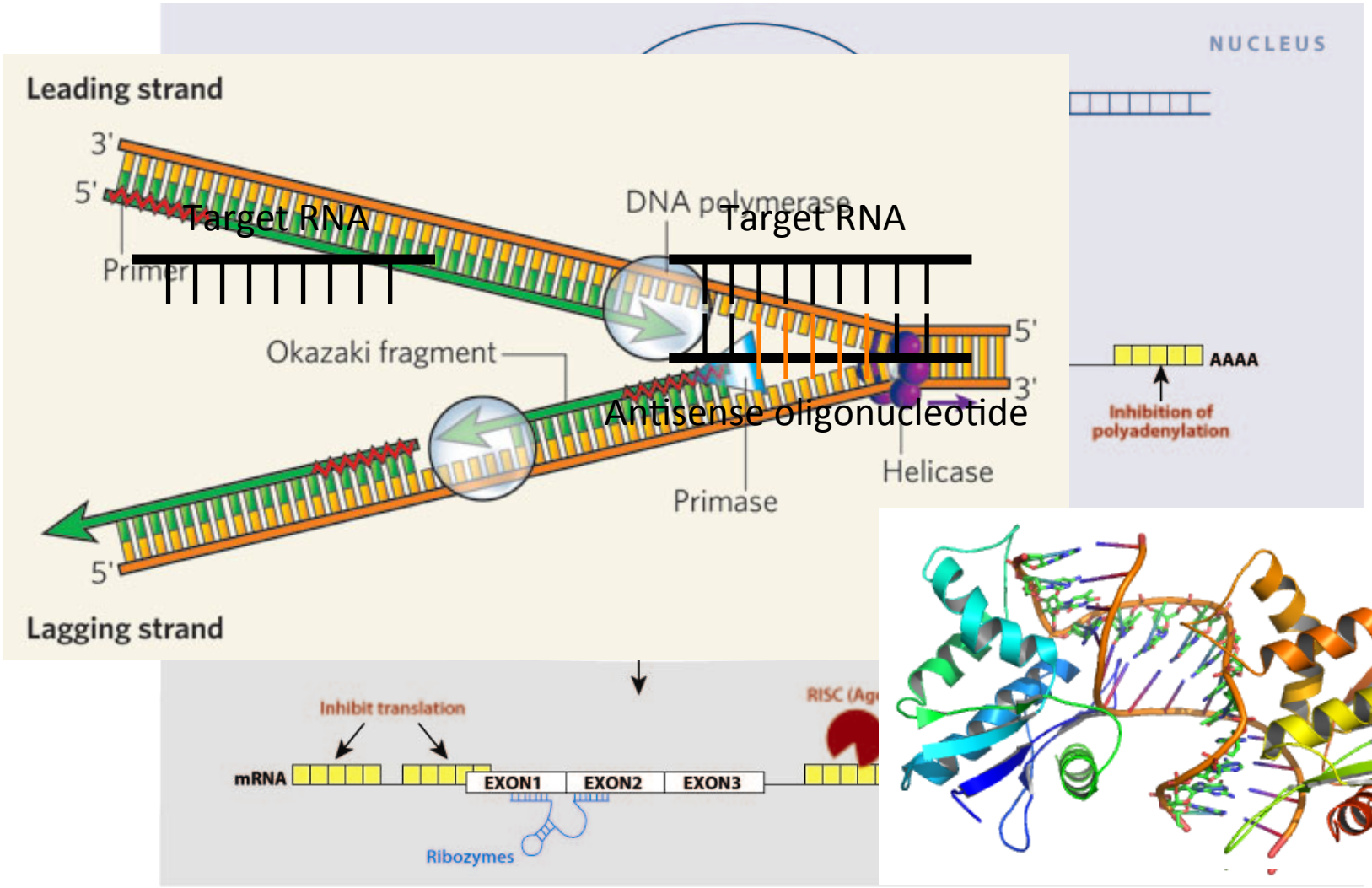
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Outline

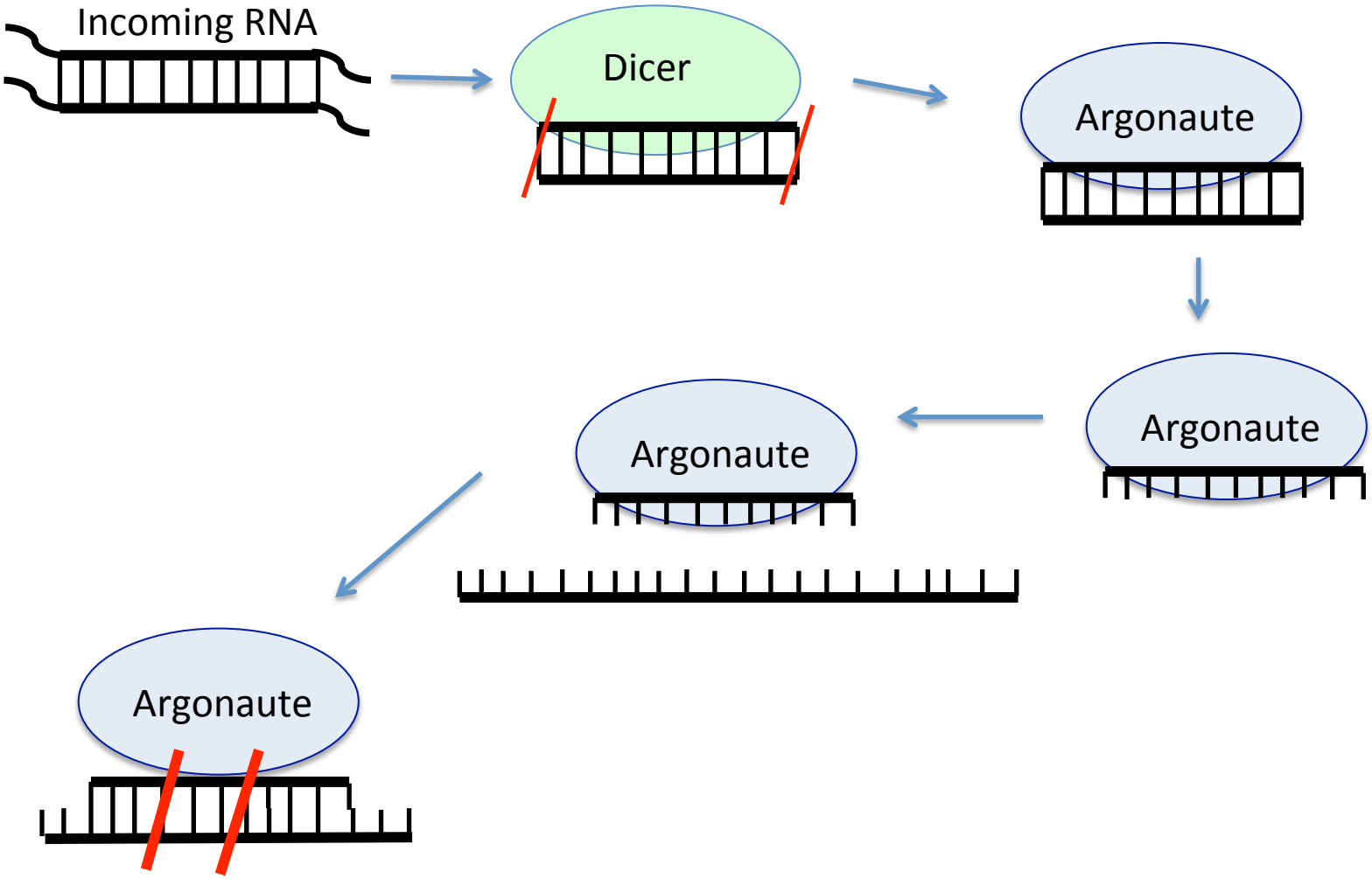
- Mode of Action
- Nuclease Stability
- Delivery

Antisense Oligonucleotides

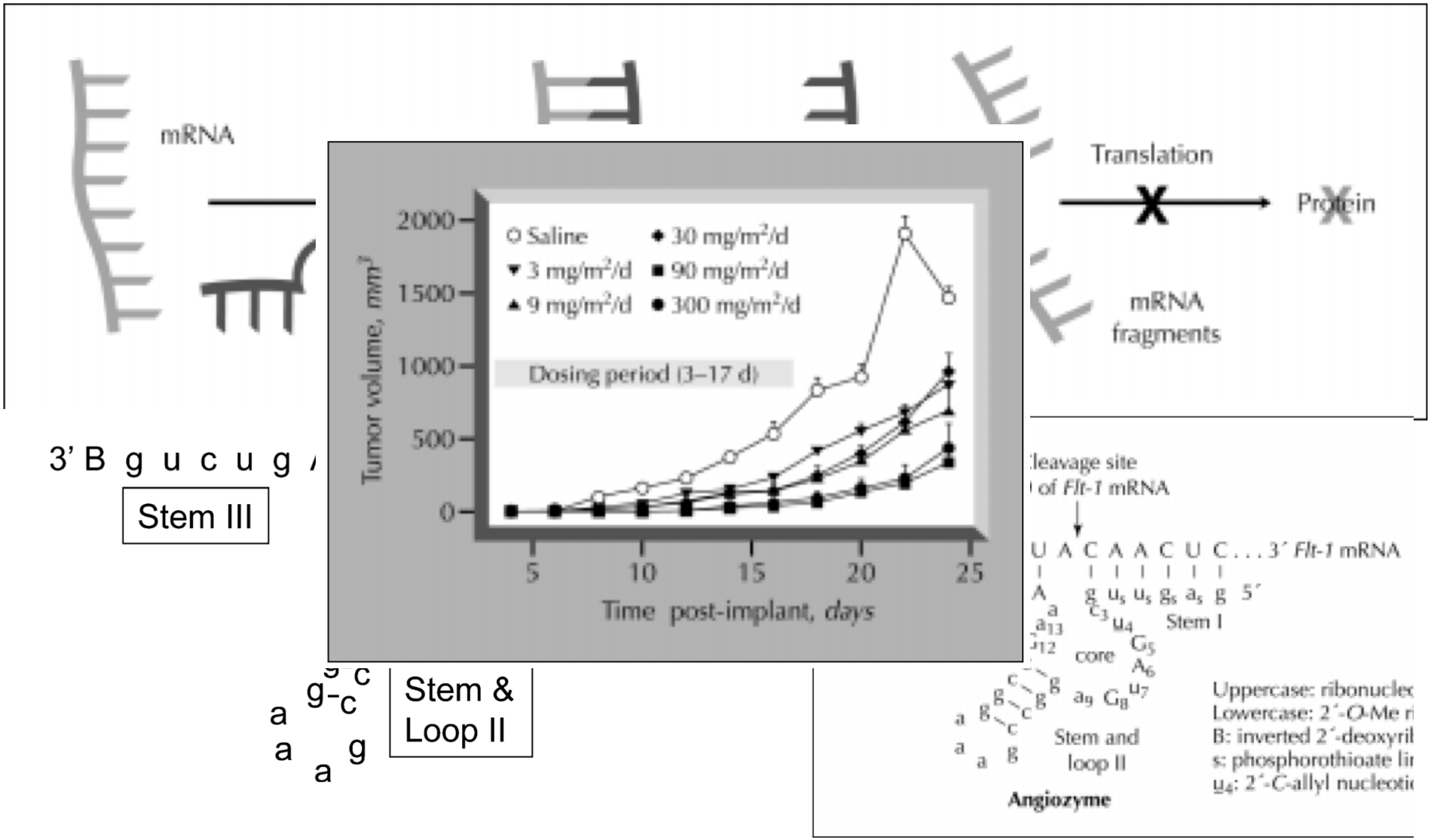


Bennett CF, Swayze EE. 2010.
Annu. Rev. Pharmacol. Toxicol. 50:259–93

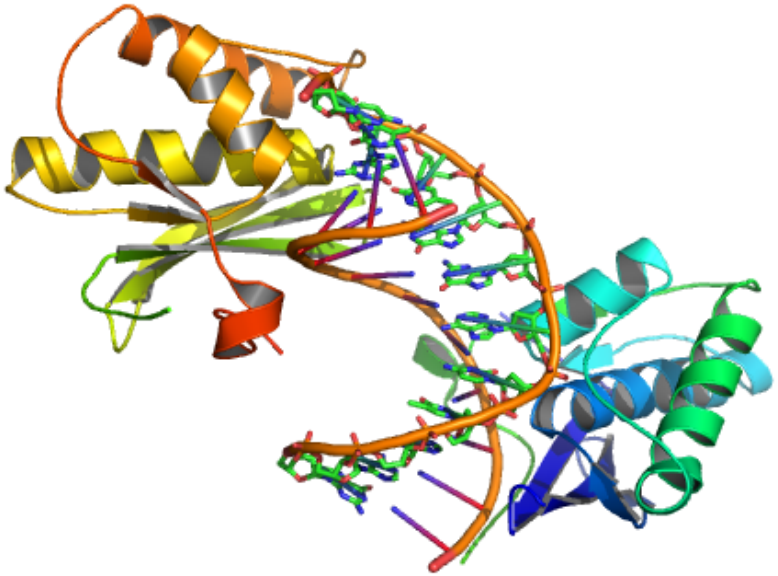
RNA interference



Ribozymes

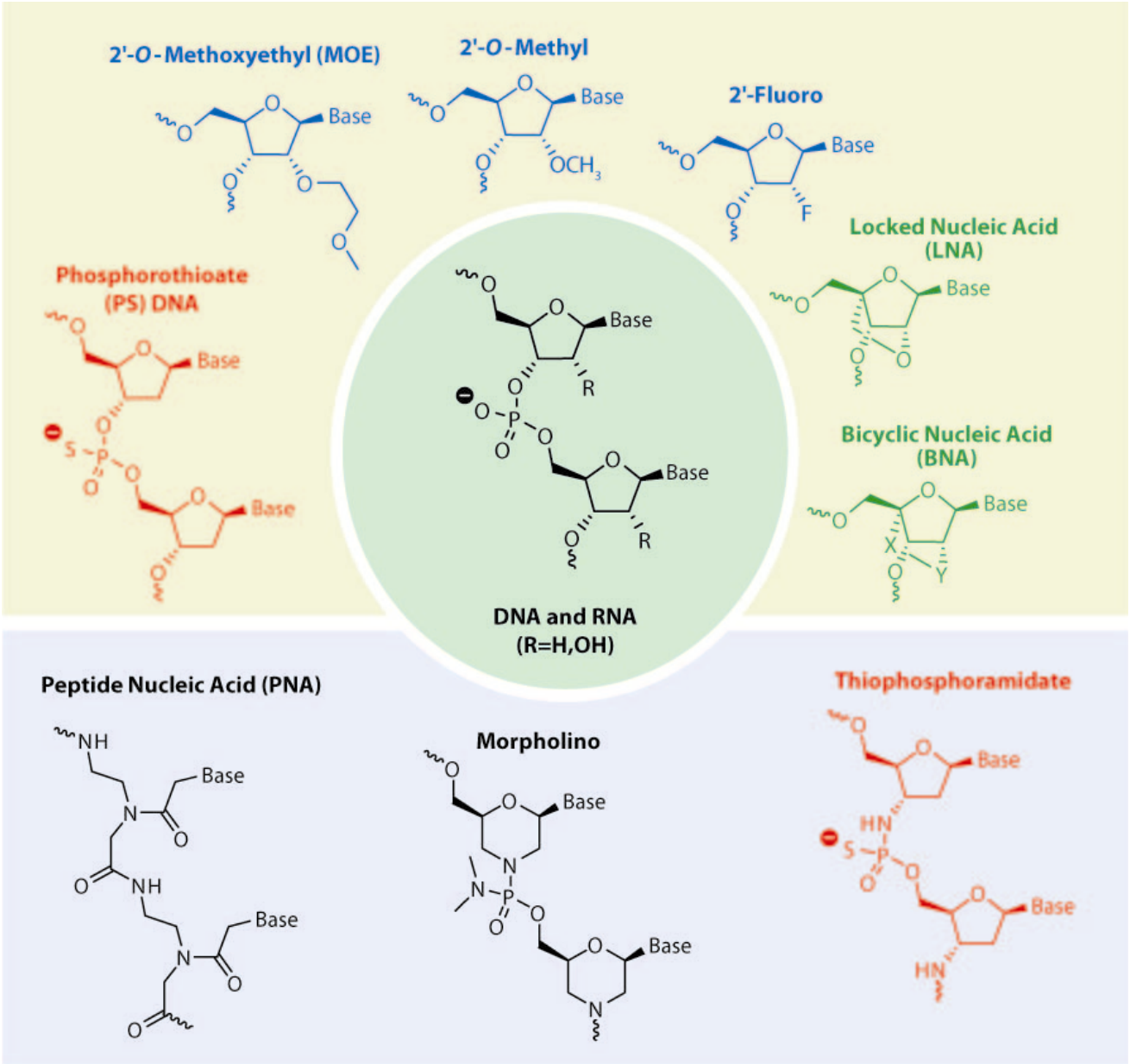

mRNA
Translation
Protein
mRNA fragments
Tumor volume, mm³
Saline
3 mg/m²/d
9 mg/m²/d
30 mg/m²/d
90 mg/m²/d
300 mg/m²/d
Dosing period (3–17 d)
Time post-implant, days
Stem III
Stem & Loop II
Stem and loop II
Angiozyme

Nuclease Stability



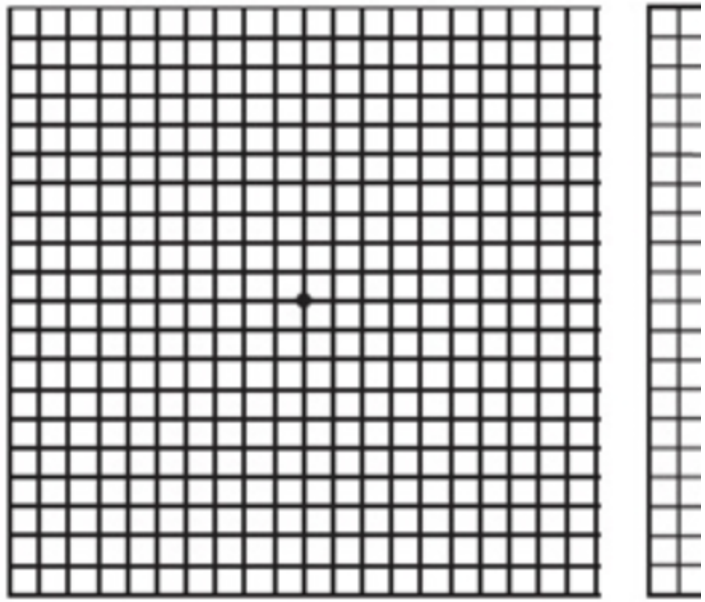
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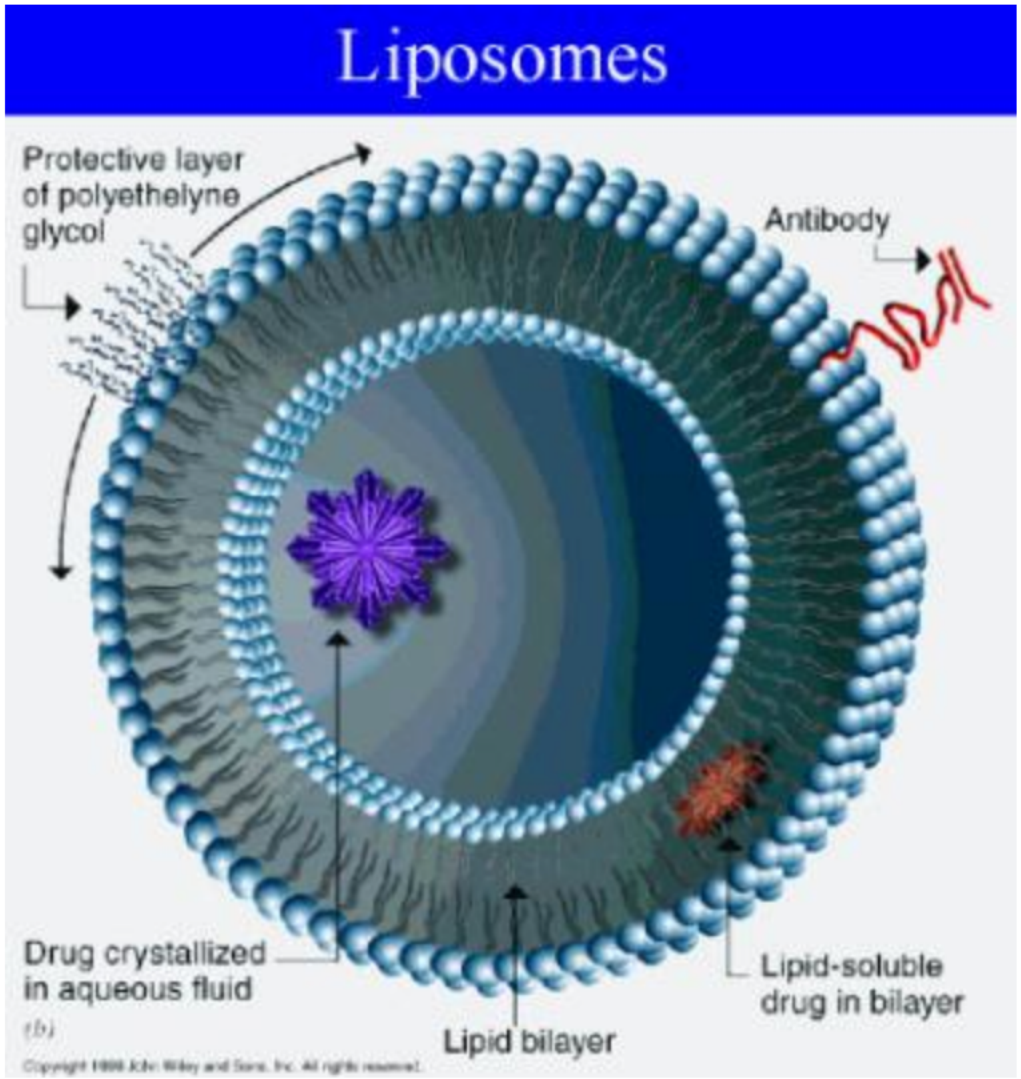


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Delivery



Amsler grid viewed with norma



Questions