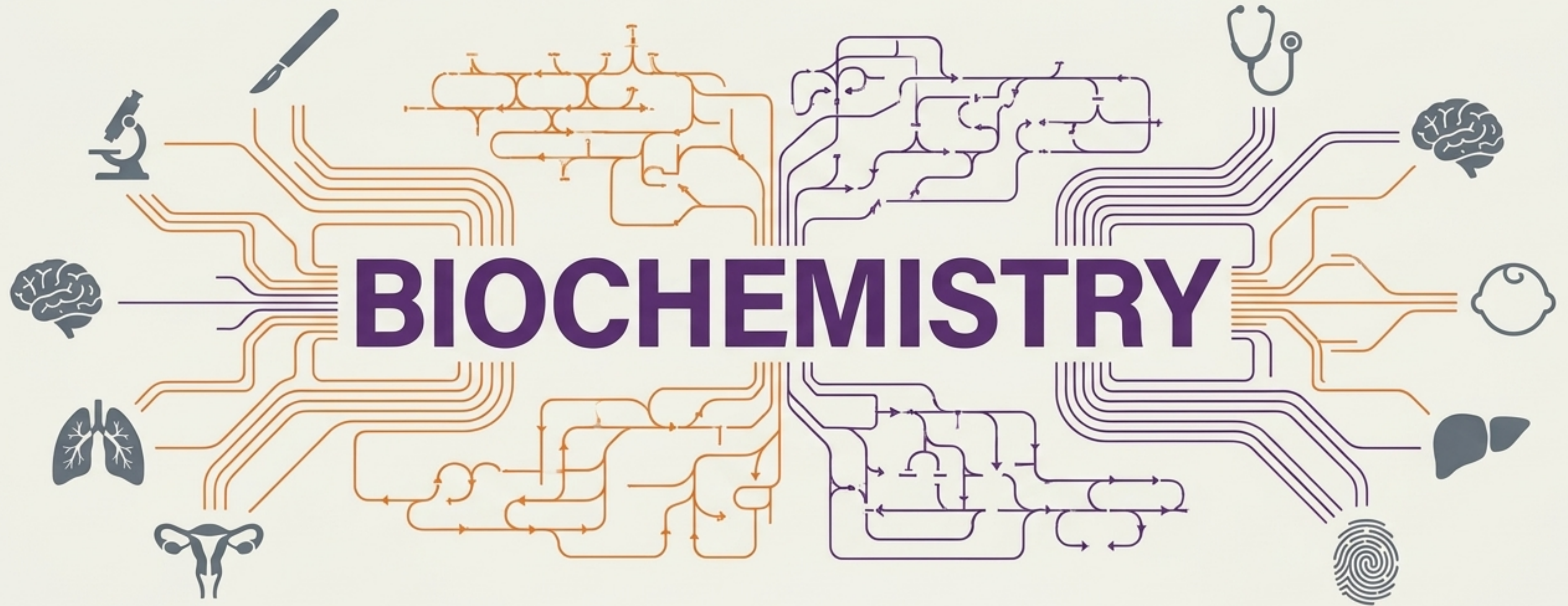


**How can WE (Biochemist)
Make Dare
to Introduce Subject,
Which is EVERY WHERE?**

Author : -

It is Self Written by Biochemistry

The invisible source code of the human body.



Underneath the surface, a single chemical language dictates the clinical outcome of every patient, in every ward.

GOD (Our God is Biochemistry) is Every-Where.

If You Have Belief

✱Physiology

- Exercise Physiology to Aerobic / Aerobic Glycolysis

✱Pathology

- Alcohol to Pancreatitis

✱Forensic Medicine

- Lysozome to Rigor Mortis

✱Microbiology

- Covid-HIV to PCR

✱Pharmacology

- c-AMP to Sildenafil Nitrate (Viagra)

✱Medicine

- Blood Gas Analysis to Renal Failure

✱Gynecology

- Pregnancy to Gestation DM

✱Surgery

- Blood Sugar to Diabetic foot - Wet Gangrene

✱Pediatric

- Nutrition to PEM

✱Ophthalmology

- mi-RNA to Age-Related Macular Degeneration

Physiology

Biochemistry of Aerobic vs Anerobic Exercise

- Glycolysis
- Exercise
- Aerobic Exercise >>>> Pyruvate >>>> Acetyl CoA >>> NAD / NADH Ratio ?
- Anerobic Exercise >>>> Increase NAD⁺
 - What could be consequences ???

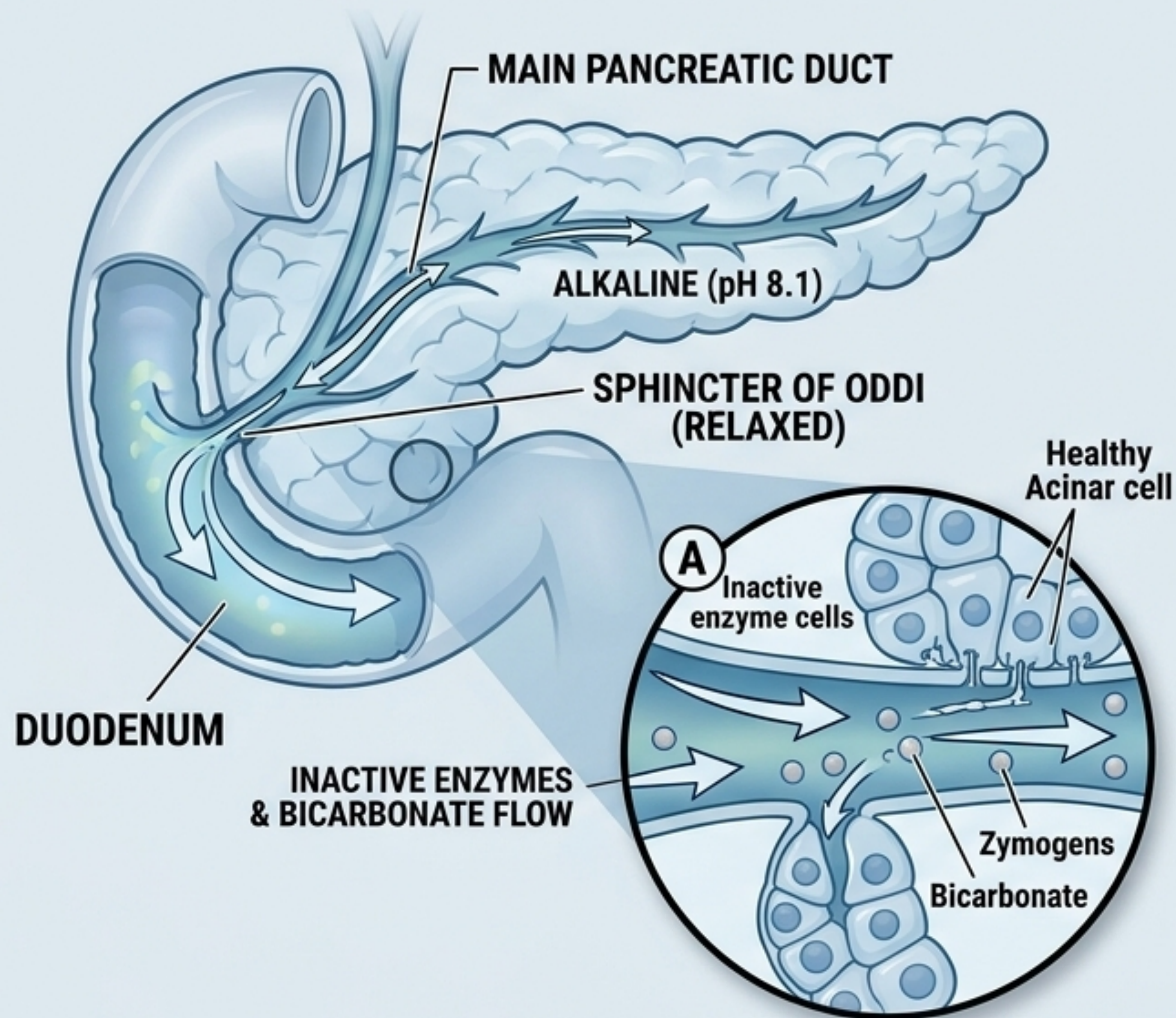
Pathology

Biochemical Effect of Alcohol to “Pancreatitis”

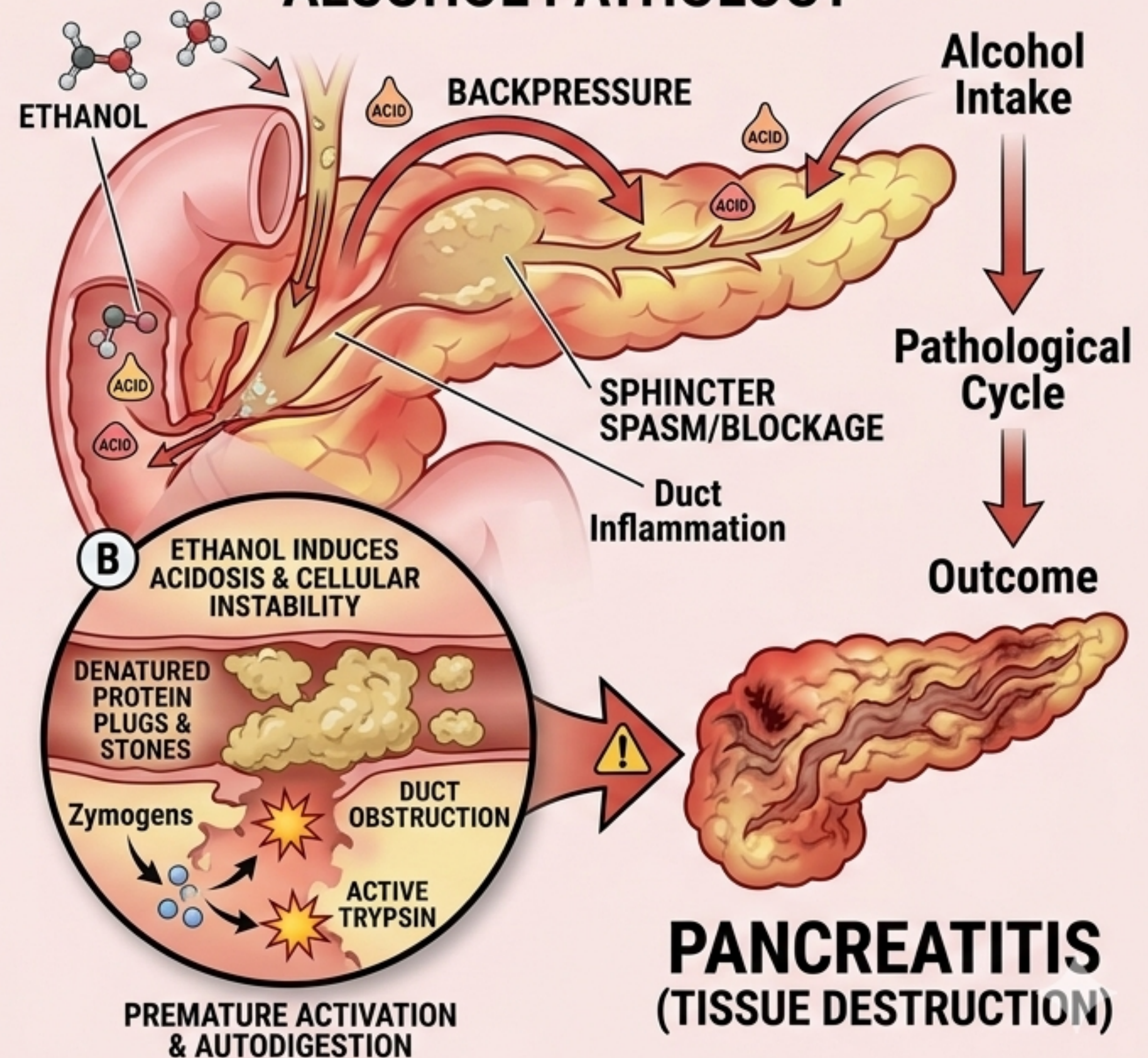
- Biochemical - Effect of Alcohol
 - **One of The Thoery Denaturation & Multiple Impact**
 - Medicine >>> **Anti Septic**
 - Pathology >>> **Pancreatitis**
- Pancreatic duct opening valve denatured
- Reflect of Acid Content >>>>> Pancreatitis

BIOCHEMICAL MECHANISM: ALCOHOL-INDUCED PANCREATITIS

NORMAL PHYSIOLOGY



ALCOHOL PATHOLOGY



Forensic Medicine

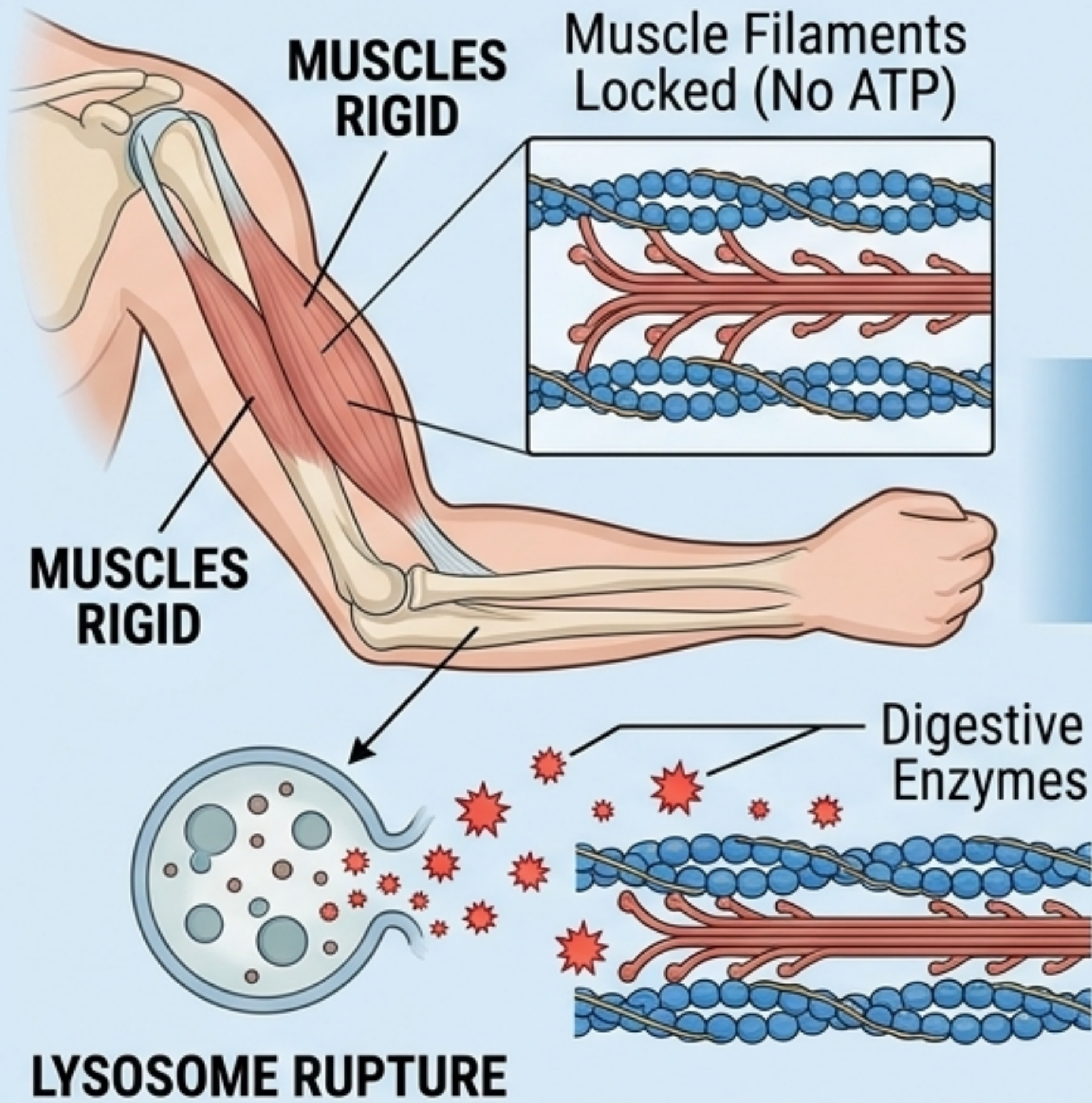
Biochemical Effect of Lysozome After Death

“Rigor Mortis to Putrification

- Death — - Not ATP Synthesis & No Defence Mechanism
 - **Rigor Mortis - Muscle Stiff** (*search image on google*)
- After 24-36 hours
- Lysozome Rupture ===== Enzyme ???
 - **Purification of The Body** (*search image on google*)

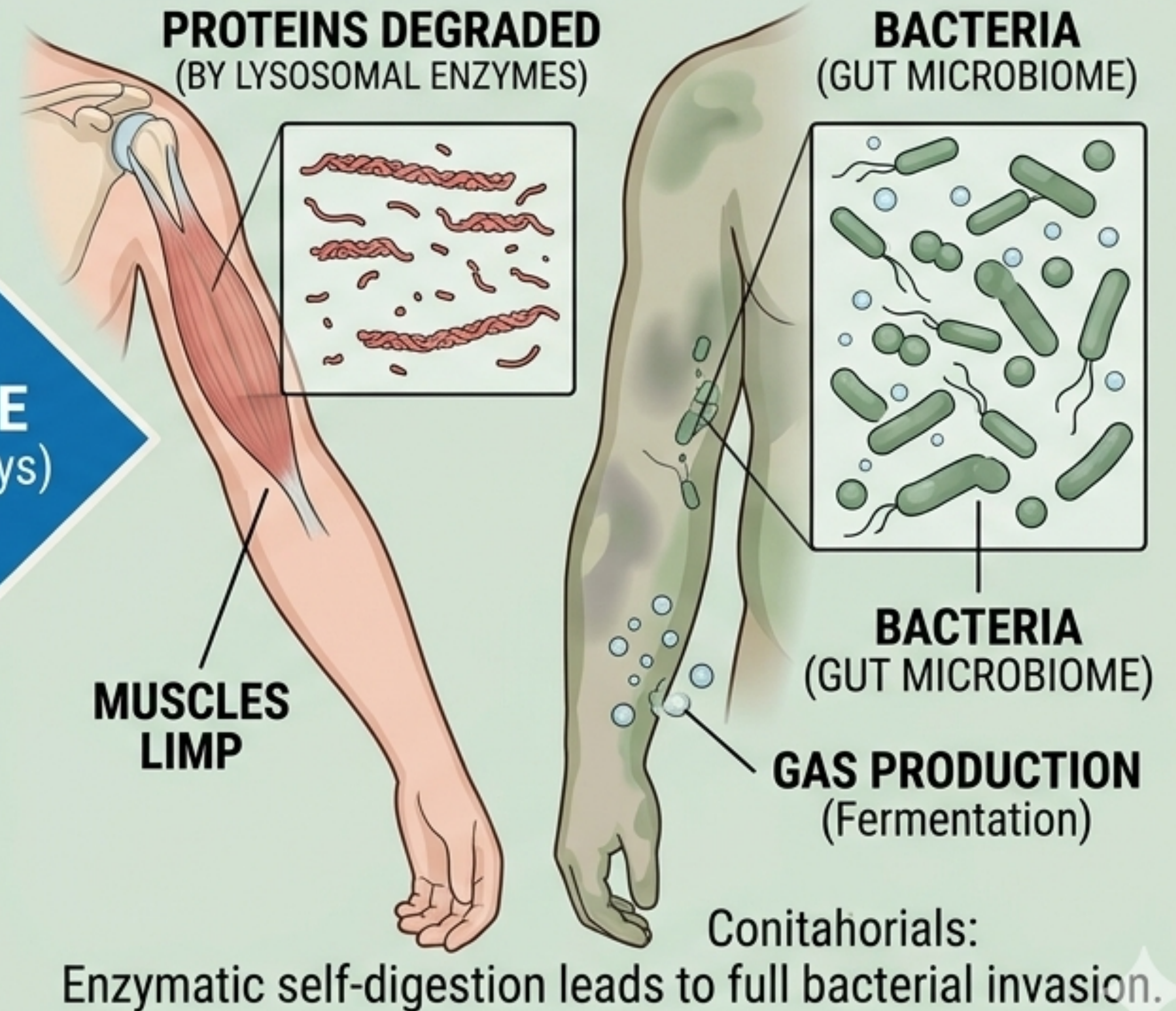
TRANSITION FROM RIGIDITY TO PUTREFACTION

1. RIGIDITY (RIGOR MORTIS)



TIMELINE
(Hours to Days)

2. PUTREFACTION (DECOMPOSITION)



Microbiology

Molecular Impact of Virus

“Biochemistry is there from Impact Detection of Virus”

- Covid19 Virus + HIV
- Can affect immunity / immune system ????
- *Integration of Virus*
- You must be know to “Virus Detection Technic”
- Molecular Technic

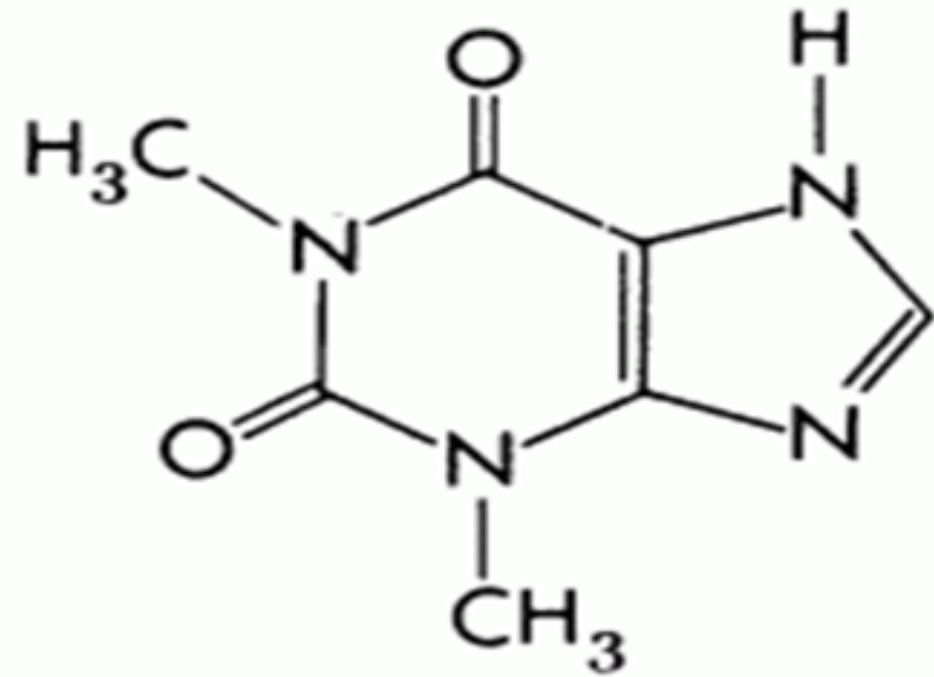
Most of You Must Be Knowing It



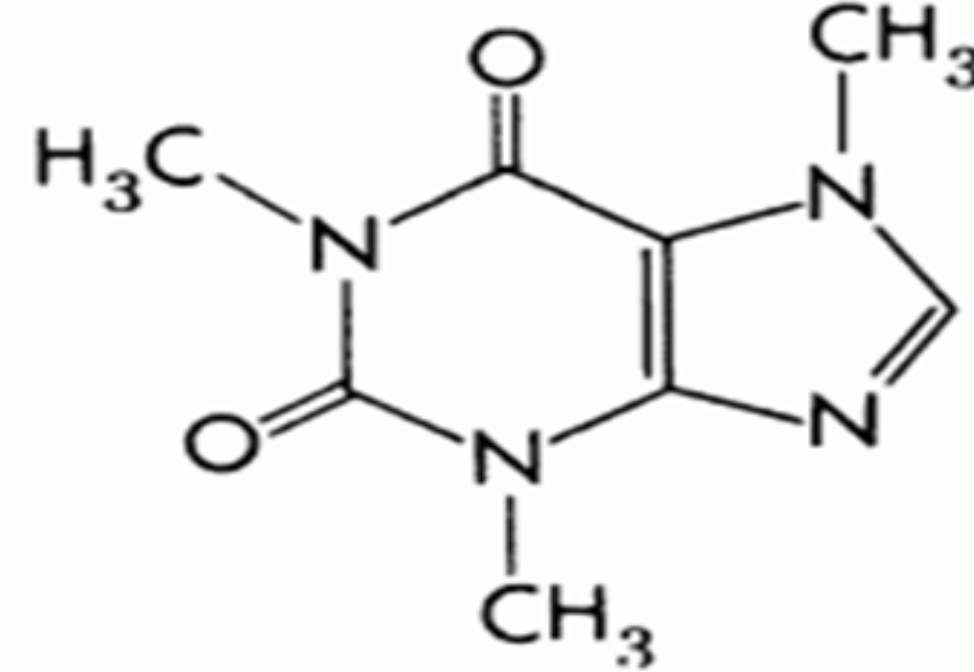
Urinary Beta - HCG detection

Name of The Technic ???

Pharmacology



THEOPHYLLINE



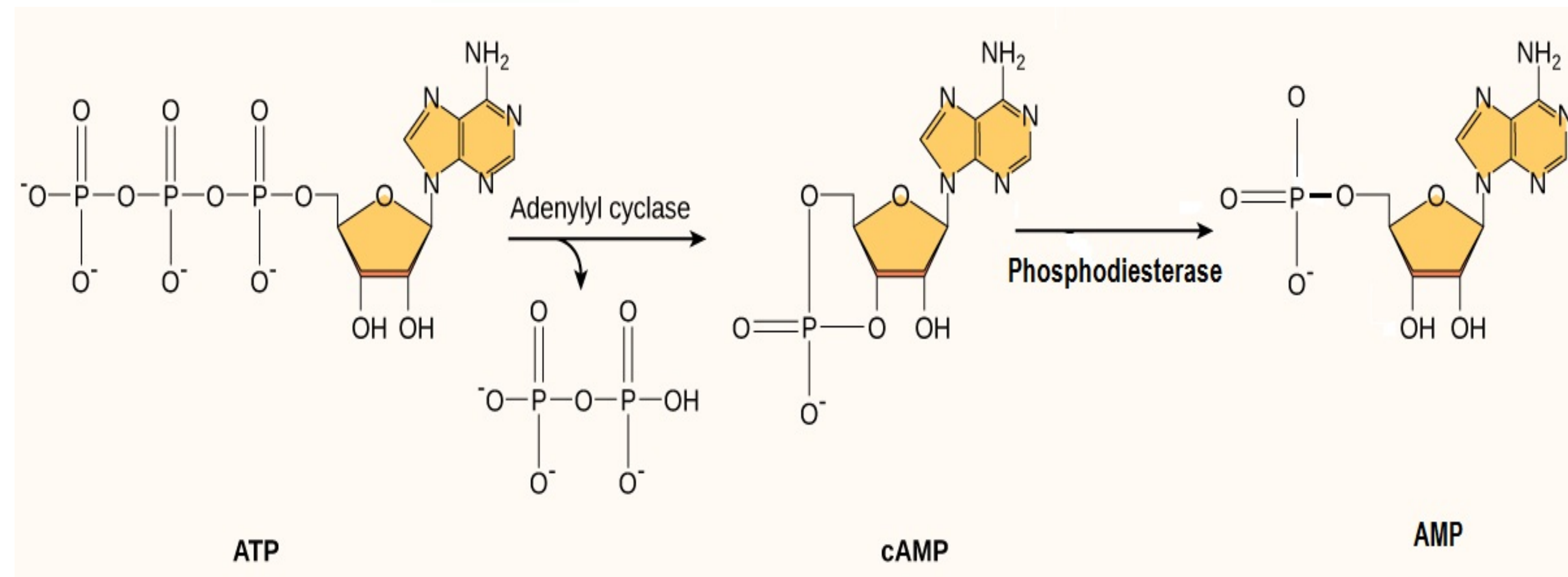
CAFFEINE

-- Search --

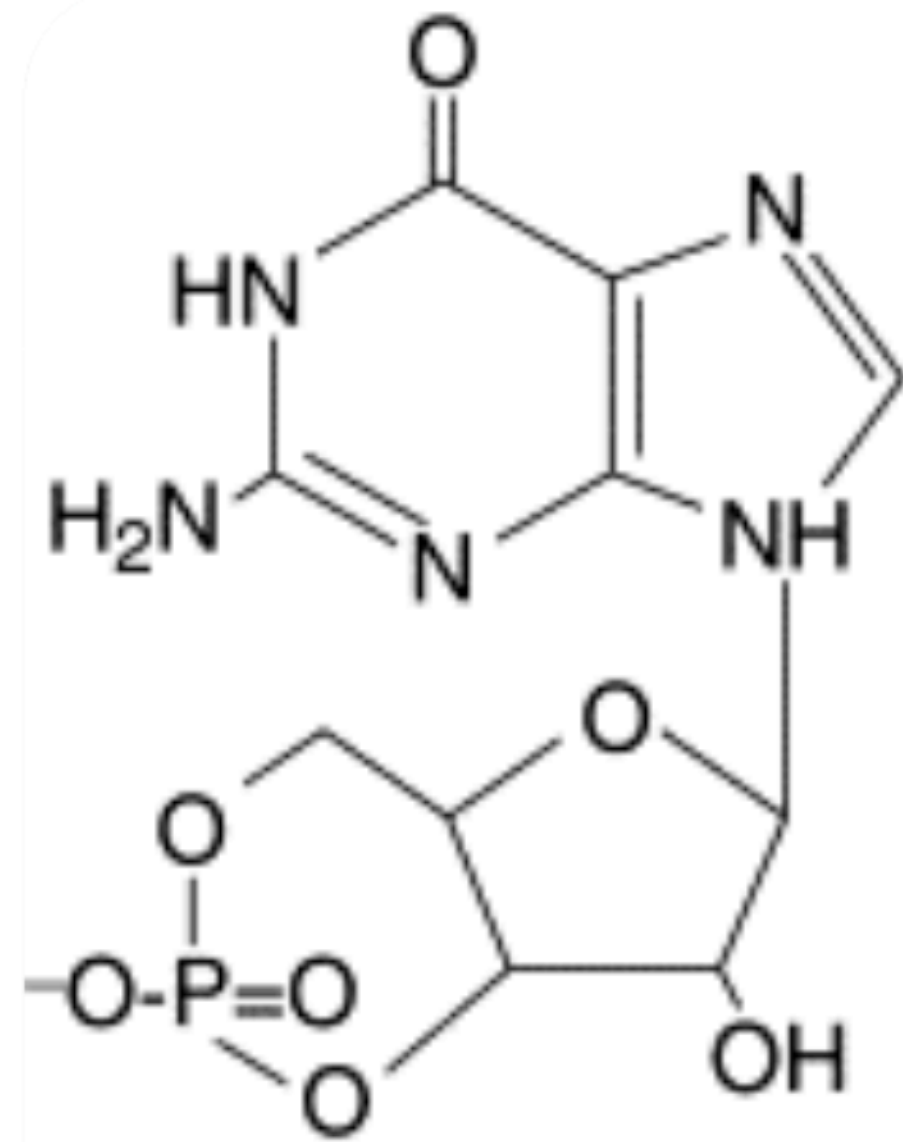
Therapeutic effect of
“Theophylline”

Competitive Inhibition

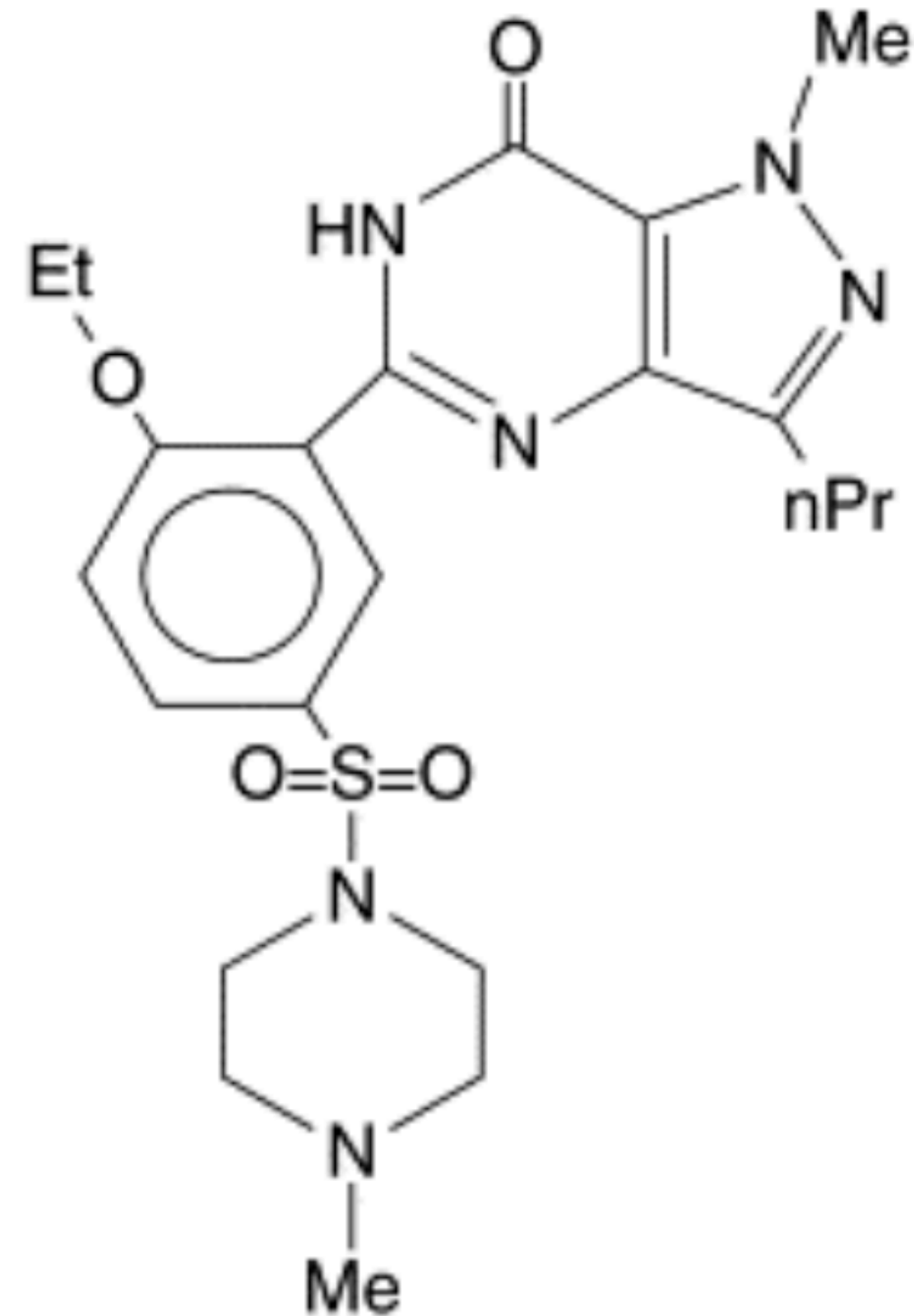
Similar Structure
to
Nitrogen base



Competitive Inhibition



c-GMP



Sildenafil Citrate = **Viagra**

Medicine

Organ Disease To “Biochemical Change” To Pathogenesis

Use in Diagnostic

- What is most **Critical** / Non-**Critical function** of the Kidney?
- Hydrogen ?? - Potassium ??? - Vitamin D ???
- ***What could be impact of these ?***
- *Clinical Biochemistry Laboratory Dealing with Estimation of*
 - *Chemistry Parameters*
 - *Immunology parameters*
 - *ISE - ABG*
- **Blood Gas Analysis - For Ventilatory Management**

Gynecology

Physiological Pregnancy Brings

Endocrine Changes To Gestational Diabetes Mellitus

- Hormonal changes during pregnancy , does hyperglycaemia ?
- Can it make changes in Metabolism of Carbohydrate ?
- *What could be long term impact this ?*

Surgery

Pre-Operational Condition

Patient's **Biochemistry** SHOULD be “**Perfect**”

- Serum Creatinine
- Blood Sugar
- ***Why ?????***
 - *Vaso Vegal Stimulation ?????*
 - *Which hormone changes happen during surgery ???*

Pediatric

Which are Most Common Disease

Before 6 months of Life Span ?

1.

2.

3.

4.



BIOCHEMISTRY: A SHIELD FOR THE NATION'S FUTURE

DEFEATING DIARRHEA: THE SGLT1 PATHWAY

ORS

Sodium Na^+ Glucose (enterocyte)

SGLT1
Co-transporter

H_2O

ORS

ORS FORMULA: Glucose + Sodium (Na^+) = Water Absorption

Biochemical rehydration saves young lives, strengthening our community's health.

COMBATING NEONATAL JAUNDICE: PHOTOTHERAPY

NEWBORN CARE

460-490nm

Unconjugated
Bilirubin

Harmless

Lumirubin



EARLY DETECTION: Prevents Brain Damage (Kernicterus)

Biochemical light treatment protects the developing brain, securing the nation's future potential.

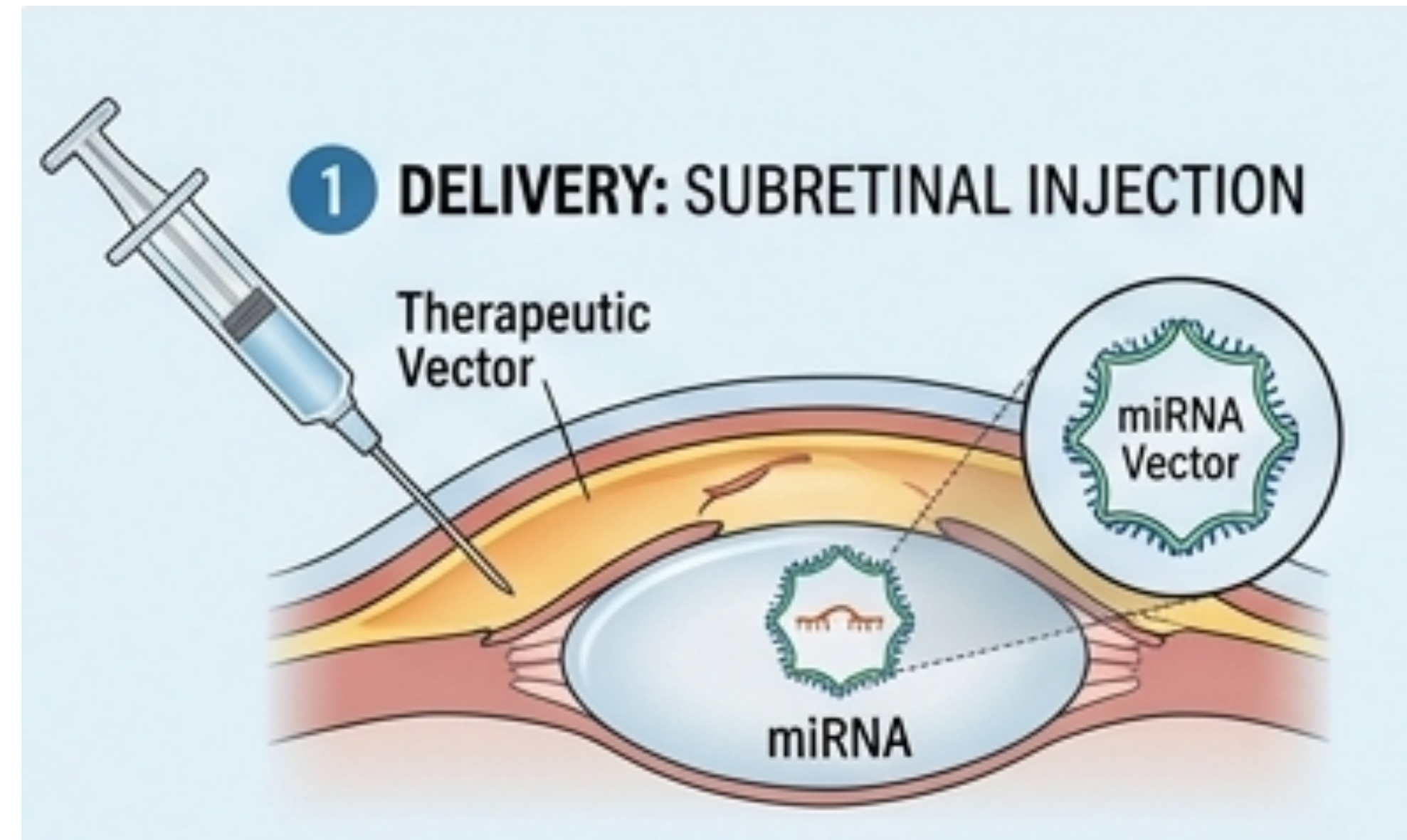
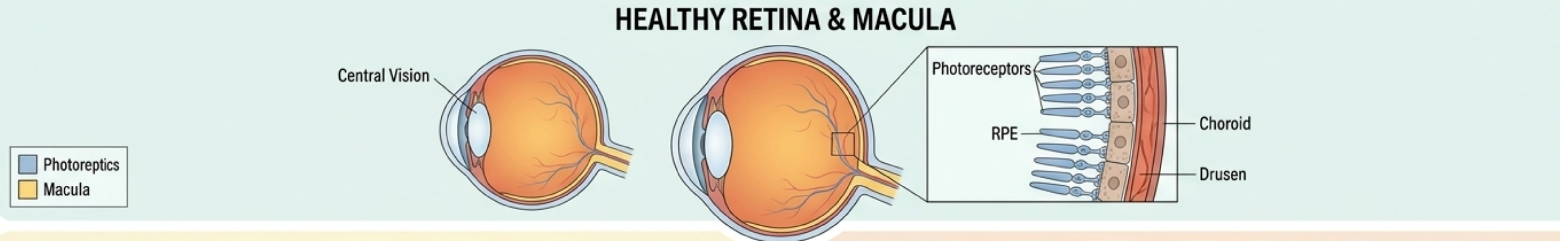
THE SCIENCE OF BIOCHEMISTRY: OUR PATRIOTIC DUTY TO PROTECT THE NEXT GENERATION.

Ophthalmology

- What can be a reason ???
- What part of eye might be have pathology ??

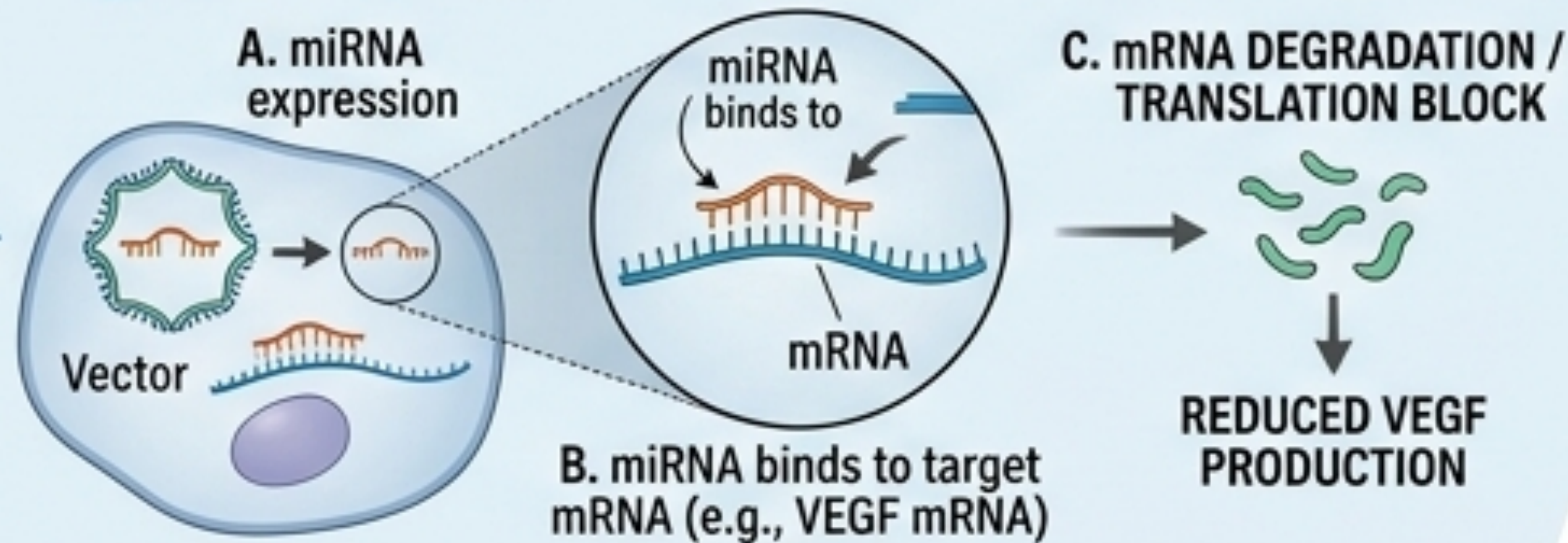


AGE-RELATED MACULAR DEGENERATION (AMD) MECHANISMS & microRNA THERAPY

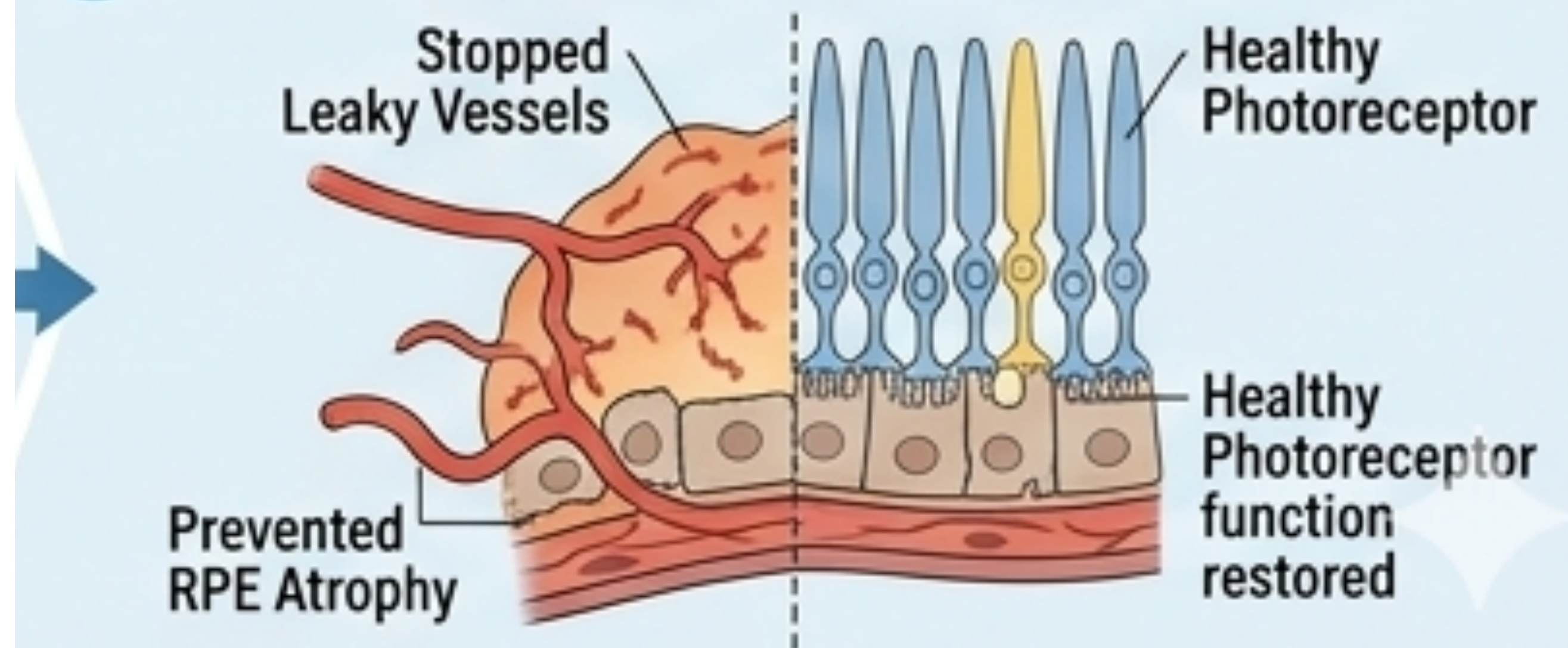


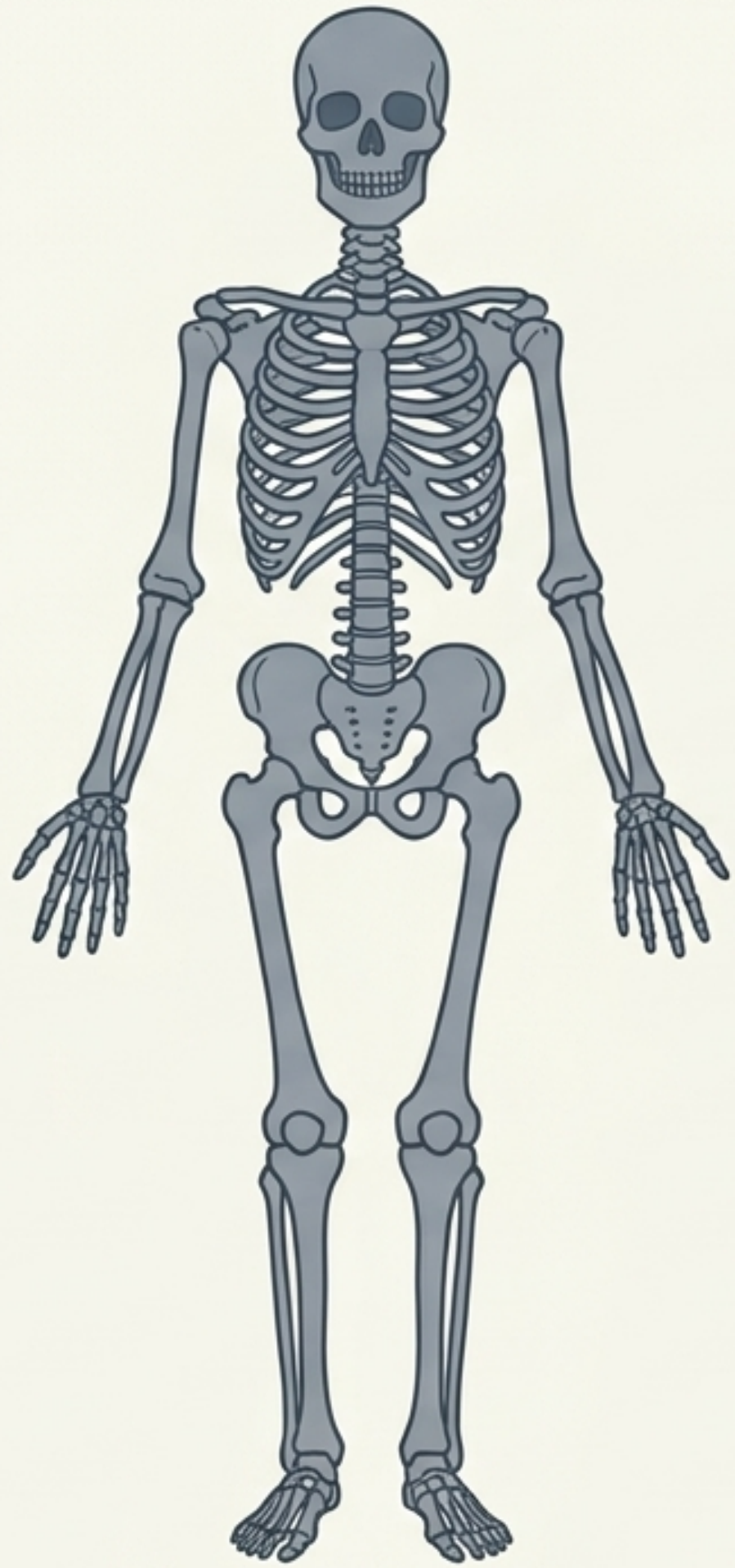
EMERGING miRNA THERAPY PATHWAY

2 ACTION: microRNA-BASED GENE SILENCING



3 RESULT: DISEASE ARREST & VISION PRESERVATION





There is exactly one exception.

**Biochemistry
cannot connect
to ANATOMY.**

a-NA-TO-MI

Gemini Notebook

**Your Enough
Intelligent
To Understand
“GOD”
Limitation**

— — — — —

**GOD
Can Connect
“Mind”
But
Not To “Brain”**

**Welcome To The Journey
With
Biochemistry**