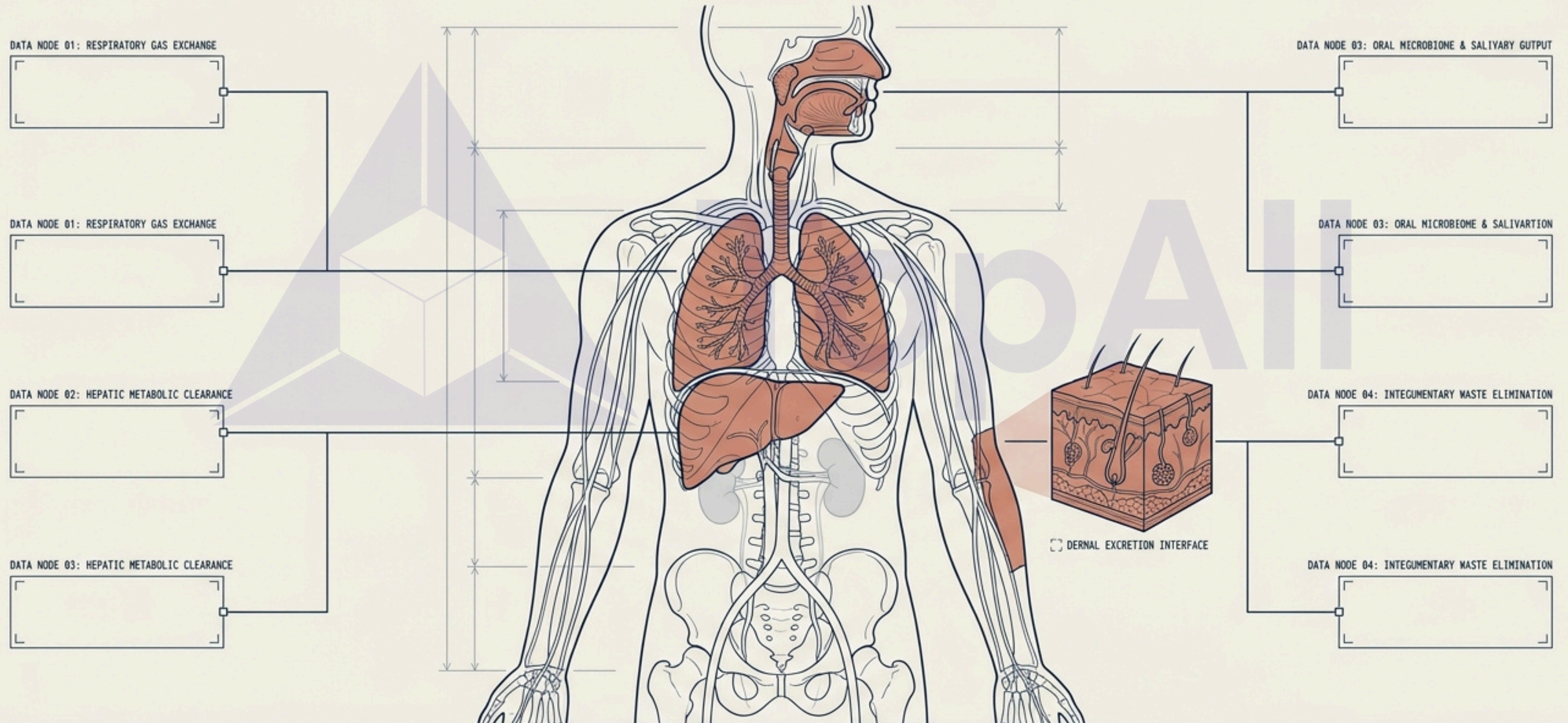
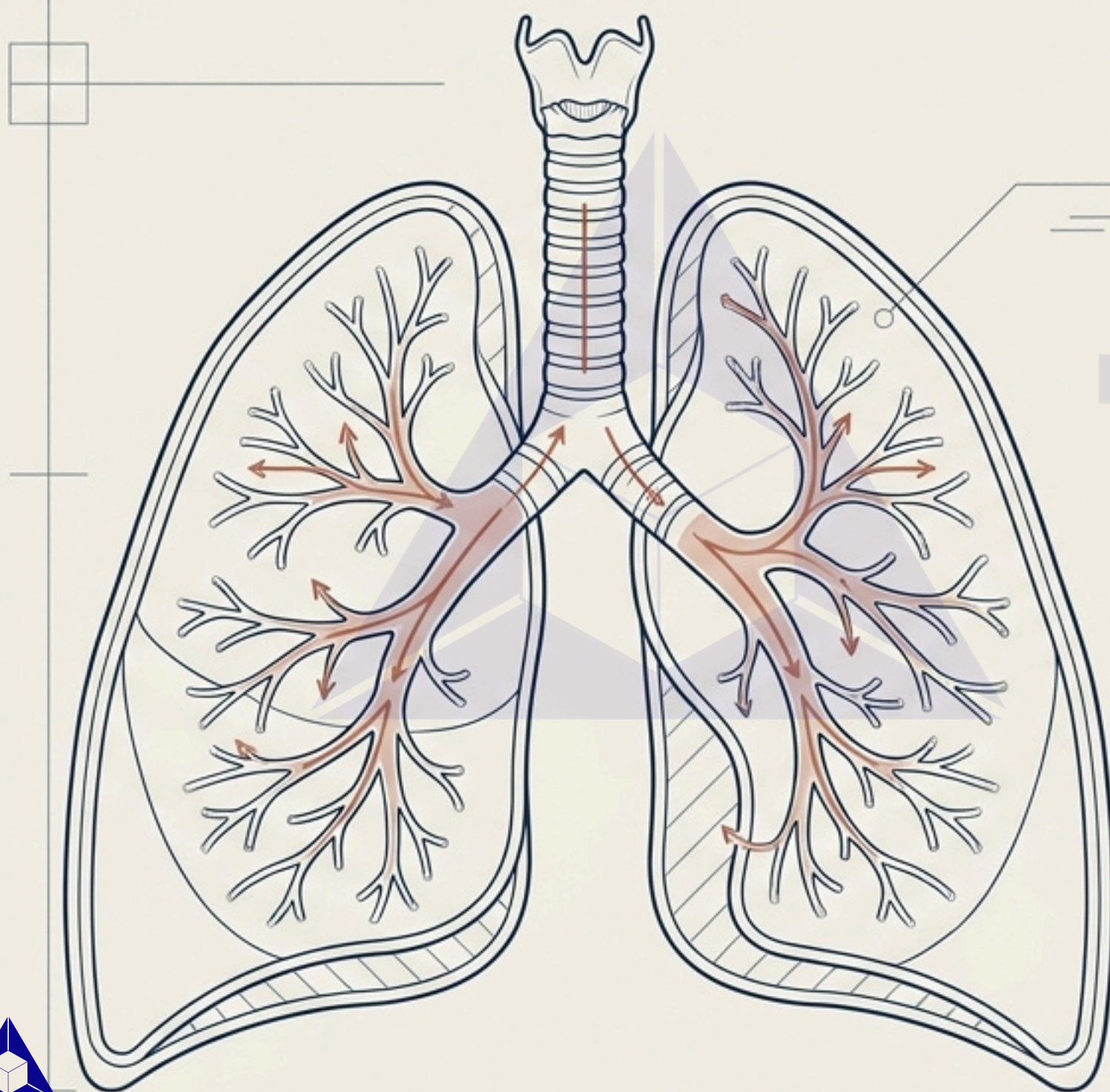


BEYOND KIDNEYS

Decentralized Waste Management Networks in Human Physiology



Respiratory Exhaust Handles High-Volume Volatile Elimination

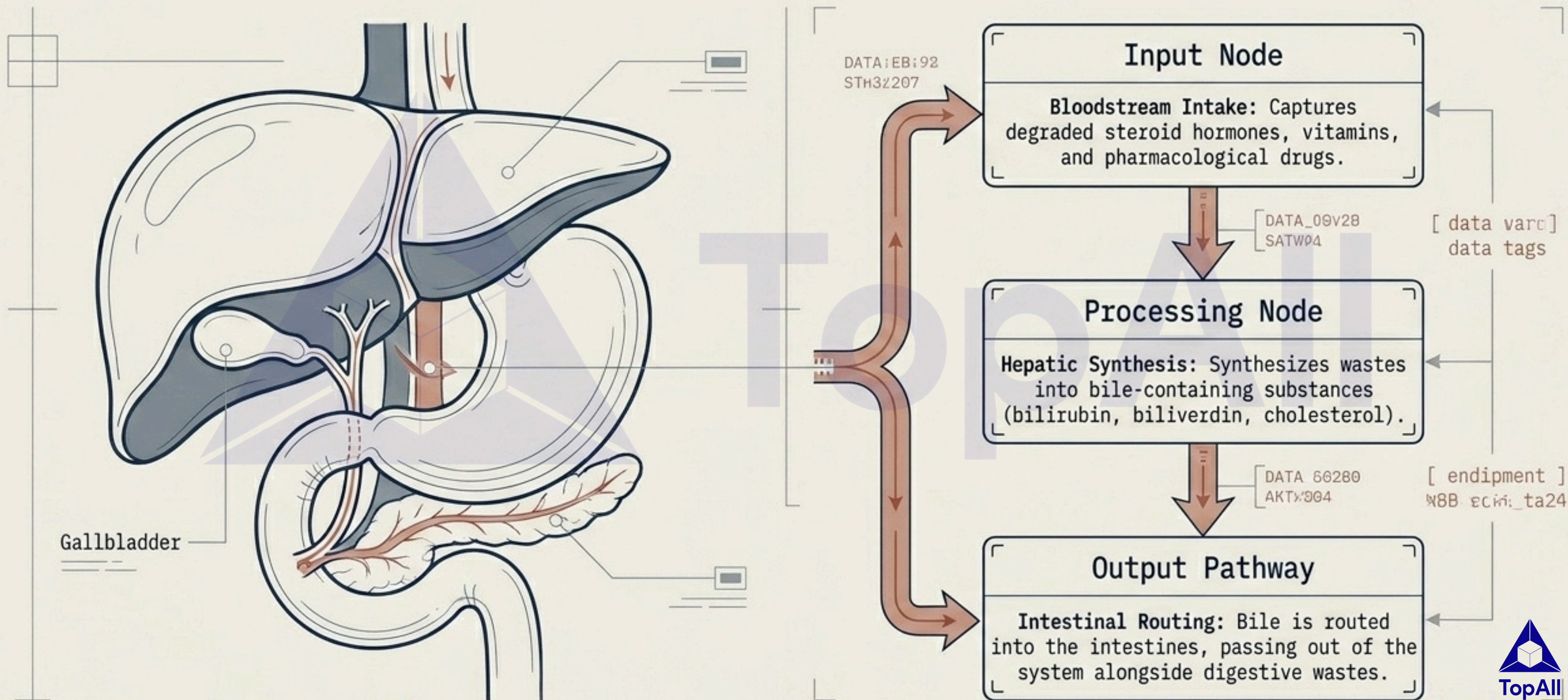


200 mL / min

1	Primary Effluent:	Carbon Dioxide (CO ₂)
2	Secondary Effluent:	Significant quantities of H ₂ O vapor

SYSTEM NOTE: While the respiratory tract's primary mandate is oxygen acquisition, its continuous exhaust cycle acts as a high-capacity, uninterrupted vent for metabolic carbon and water.

The Hepatic Hub Routes Complex Chemical Byproducts





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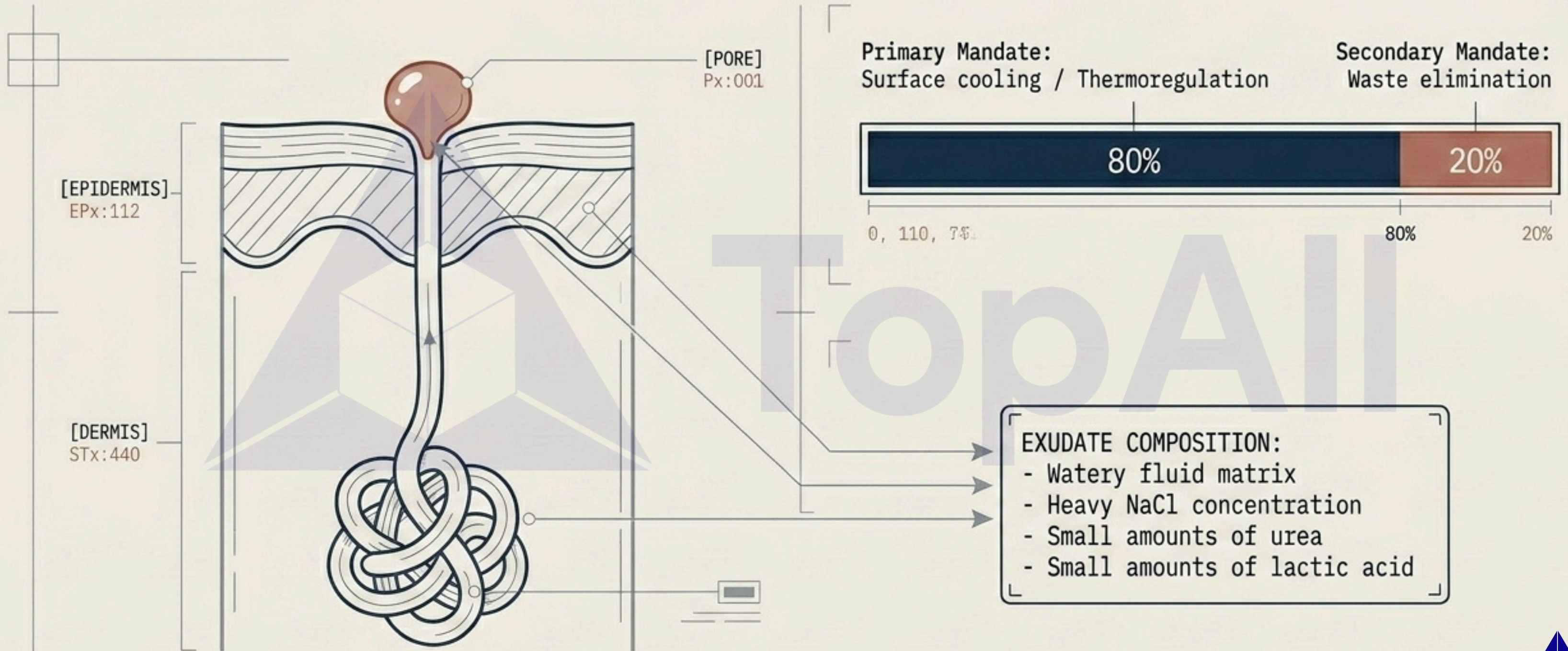
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Key Highlights

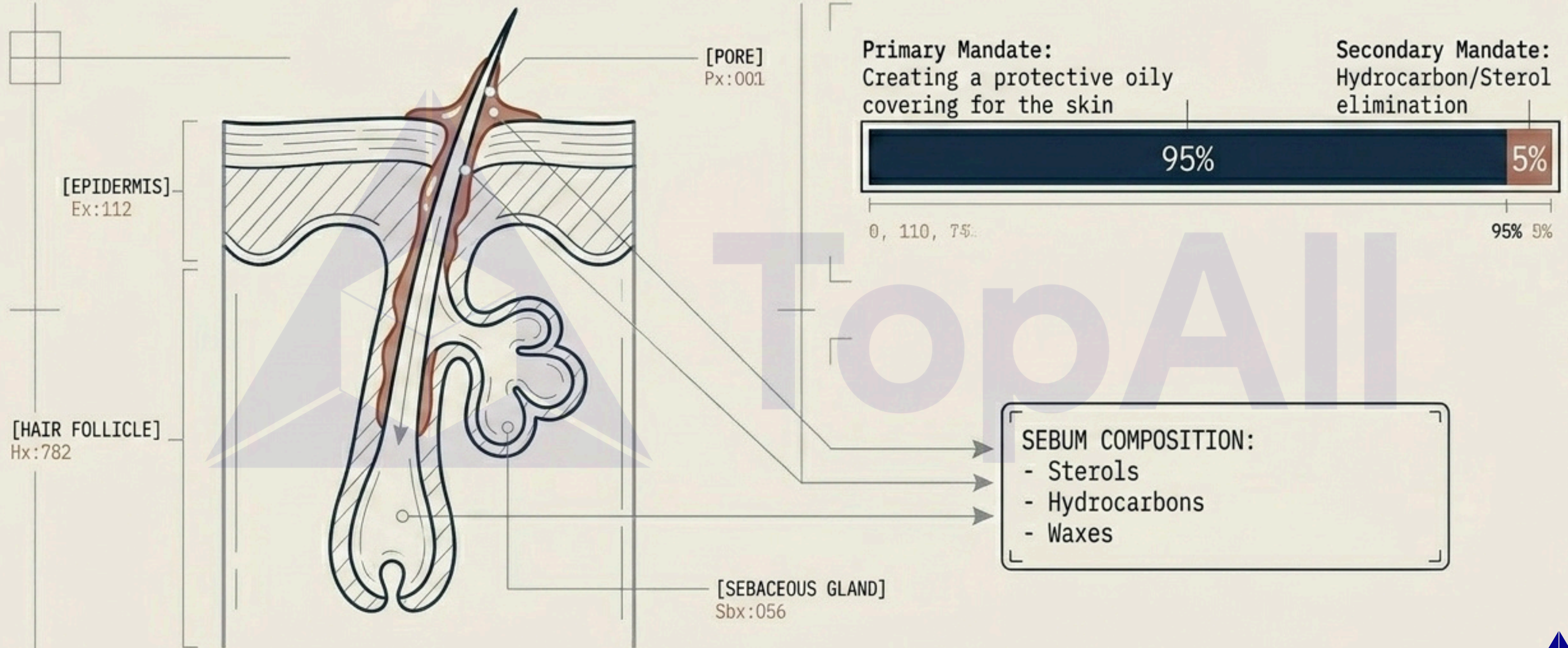
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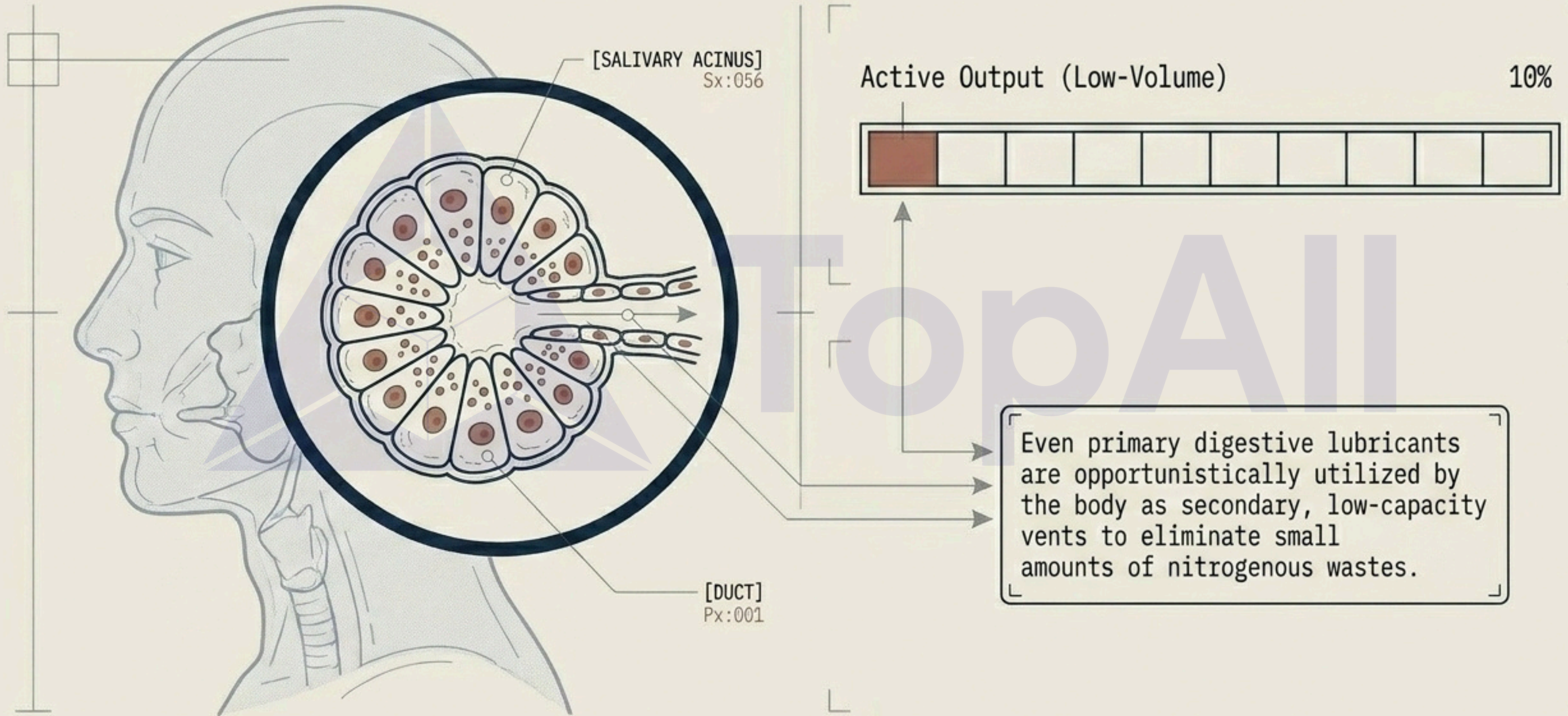
Aqueous Surface Exudation via Sudoriferous Glands



Lipid-Based Elimination Operates as a Protective Sealant



Oral Secretions Act as Minor Filtration Pathways



The Decentralized Excretory Systems Matrix



Organ	Excretory Output	Primary System	Secondary Purpose
Lungs	CO ₂ (200mL/min) & H ₂ O	Respiratory	Gas Exchange / Exhaust
Liver	Bilirubin, biliverdin, cholesterol, degraded hormones, drugs	Digestive	Heavy Chemical Routing
Sweat Glands	NaCl, urea, lactic acid	Integumentary	Thermoregulation
Sebaceous Glands	Sterols, hydrocarbons, waxes	Integumentary	Oily Protective Covering
Salivary Glands	Small nitrogenous wastes	Digestive	Oral Lubrication

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Biological waste management is highly opportunistic, utilizing existing respiratory, digestive, and integumentary pathways to eliminate toxic byproducts.



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