

MICROSCOPIC ANATOMY OF THE PANCREAS

Exocrine Component (98%)

[Microscopic Cross-section: Acini]

- **Acinar Cells:** Pyramidal cells producing digestive enzymes.
- **Zymogen Granules:** Apical storage of pro-enzymes.
- **Centroacinar Cells:** Start of the duct system.
- **Intercalated Ducts:** Secrete bicarbonate.

Endocrine Component (2%)

[Islet of Langerhans Detail]

- **Islets of Langerhans:** Pale-staining spherical clusters.
- **Alpha Cells (\hat{I}^{\pm}):** Secrete Glucagon.
- **Beta Cells (\hat{I}^2):** Secrete Insulin.
- **Delta Cells (\hat{I}^1):** Secrete Somatostatin.

Comparative Histology Table

Feature	Exocrine (Acini)	Endocrine (Islets)
Staining	Darker (Basophilic base)	Lighter/Pale staining
Arrangement	Grape-like clusters	Irregular cords/nests
Vascularization	Moderate	Highly Fenestrated Capillaries
Product Route	Ductal System	Directly into Bloodstream

Educational Resource: Histology Reference Chart © 2024