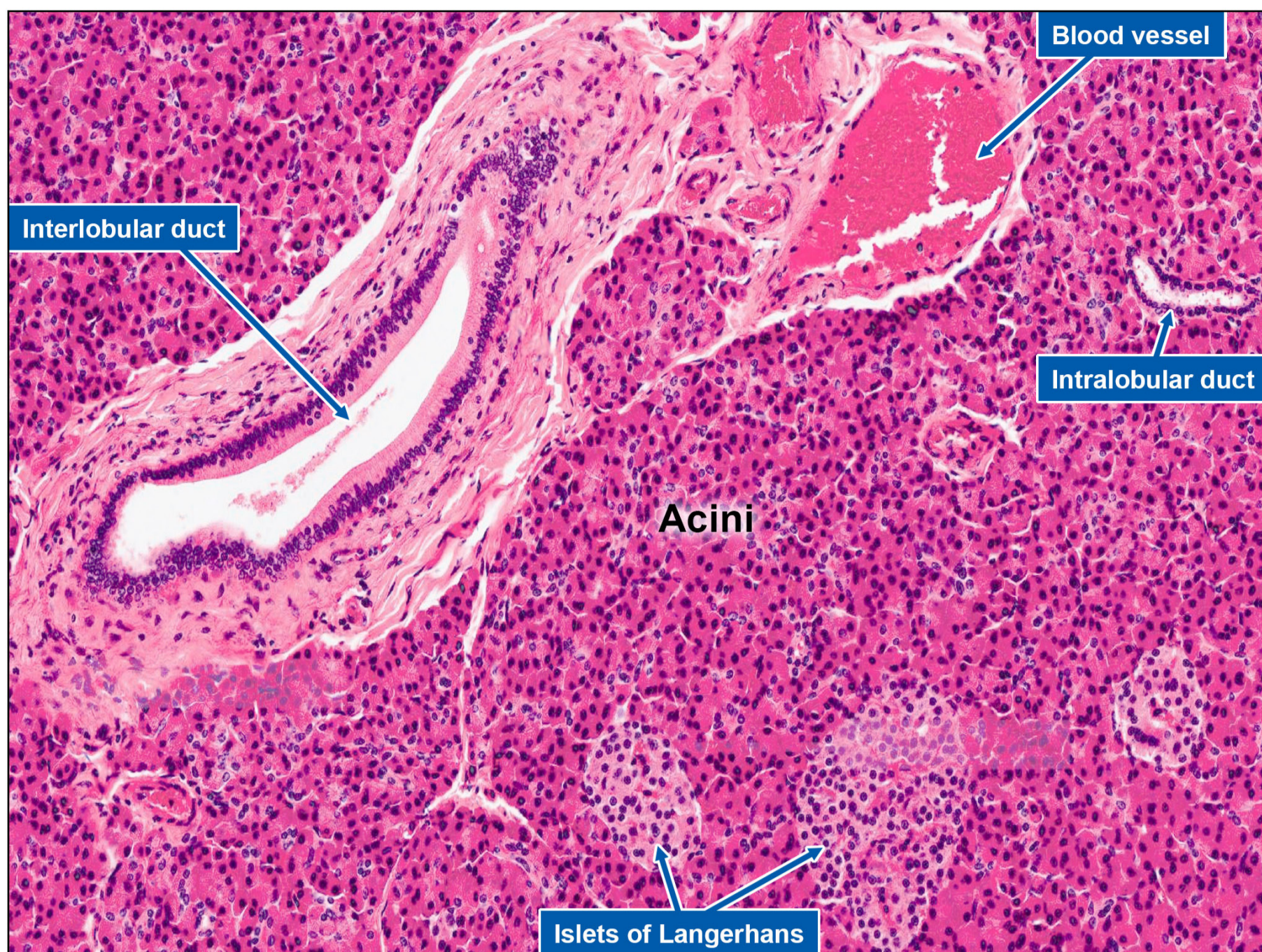


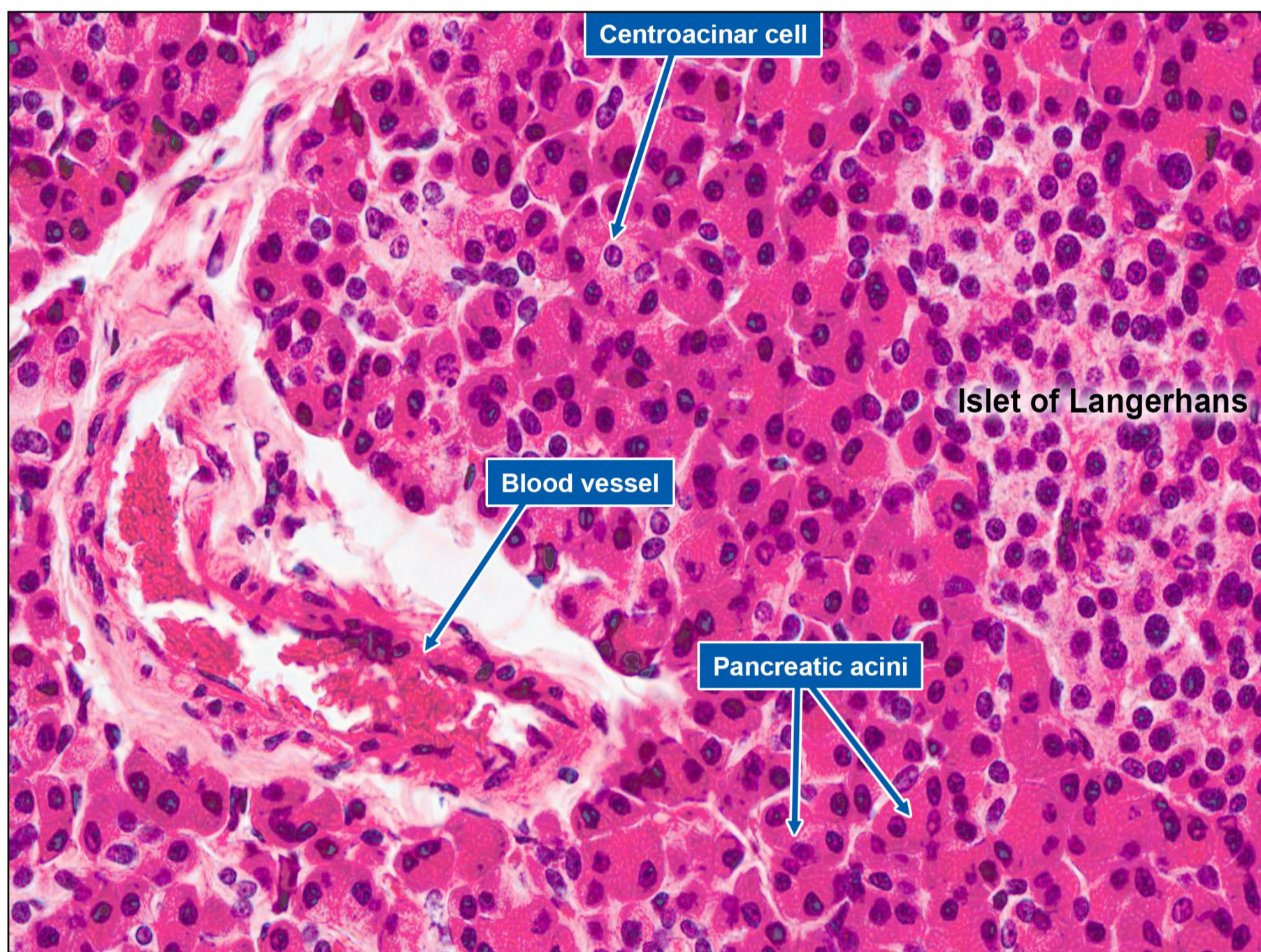
# PANCREAS

## Endocrine System

Pancreas function as both endocrine and exocrine gland.



Low magnification



High magnification

- Pancreas is surrounded by a thin capsule of connective tissue, from which septa protrudes to cover the major ducts and arteries and divides the parenchyma into lobules.
- The basal lamina surrounds the secretory acini, it is only held up by a thin sheath of reticular fibres that has a dense capillary network.
- Endocrine Pancreas has islets of Langerhans.
- There are 4 cell types in the Islets of Langerhans:
  - Alpha cells secrete glucagon.
  - Beta cells secrete insulin.
  - Delta cells secrete somatostatin.
  - P cells secrete pancreatic polypeptides.
- A short, intercalated duct of straight-forward squamous epithelium drains each acinus.
- The first cells of these ducts that extend into the acinus lumen are tiny, pale staining Centro acinar cells are exclusive to pancreas.
- Enterochromaffin cells emit additional hormones that impact the digestive system.
- Intercalated duct cells emit a substantial volume of fluid containing  $\text{HCO}_3^-$  (bicarbonate ions), which alkalinizes and transfers hydrolytic enzymes produced in the acini.
- The primary pancreatic duct traverses the length of the gland and is joined by intercalated ducts, intralobular ducts, and bigger interlobular ducts, which contain progressively columnar epithelia.