PANCREATIC DUCTAL FLUID AND HCO3- SECRETION INCREASE IN DIABETES IN WHICH CFTR PLAYS A CENTRAL ROLE

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A mouse model study found that diabetes increases both basal and stimulated pancreatic ductal fluid and bicarbonate secretion, contrary to some prior reports, with CFTR and other ion transporters playing a central role.

KEY POINTS

- Basal fluid and bicarbonate secretion were significantly elevated in diabetic mice compared to normal mice.
- Secretin-stimulated fluid secretion was also significantly higher in diabetic mice.
- Inhibition of CFTR significantly reduced bicarbonate secretion in both normal and diabetic mice.
- Expression of ion and water transporters including CFTR, ANO1, NHE-1, and AQP1 increased in diabetes.
- The study used streptozotocin-induced diabetes in wild type and CFTR knockout mice with measurements by fluorescence microscopy, real-time PCR, and immunohistochemistry.

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