Inducible ZnT8 transgenic mouse

A mouse model expressing human zinc transporter 8 (ZnT8), a protein of interest in diabetes research

Proposed use

Diabetes research.

Technology overview

The relevant sequence in the transgenic incorporates a bidirectional tetracyclin-regulated promoter, which drives expression of both human ZnT8-Myc and firefly luciferase. This allows ZnT8 expression to be controlled by tetracycline and the sites at which it occurs to be easily identified. Zinc transporter 8 (ZnT8), encoded by SLC30A8, is chiefly expressed within pancreatic islet cells, where it mediates zinc (Zn2[1]) uptake into secretory granules. Although a common nonsynonymous polymorphism (R325W), which lowers activity, is associated with increased type 2 diabetes (T2D) risk, rare inactivating mutations in SLC30A8 have been reported to protect against T2D.

Benefits

- ZnT8 expression controlled by tetracycline and the sites at which it occurs are easily identified.
- Associated with increased type 2 diabetes (T2D) risk.
- Rare inactivating mutations in SLC30A8 have been reported to protect against T2D.

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Intellectual property information

Reagent/material

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