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Stability of a type 2 diabetes rat model induced by high-fat diet feeding with low-dose streptozotocin injection

Key words: High-fat diet, Stability, Streptozotocin, Type 2 diabetes mellitus

Background

Type 2 diabetes model:



high-fat diet-feeding +low-dose STZ injection

Insulin resistance

Mild impairment of pancreas

HOWEYER...

No one focuses on the stability of this model although it has been widely used in pharmacological studies.

Objective

The present study aimed at determining the stability of this model under the background diet of high-fat-diet and normal diet.

Key findings





Normalized blood glucose, pancreas structure
More severe dyslipidemia and hepatic dysfunction

Relatively stable
blood glucose
More severe
dyslipidemia and
hepatic
dysfunction

More resembled Type 1 diabetes Sharp decrease in bodyweight Severe impairment in pancreas

Conclusion

- **X** High-fat diet (HFD) combined with 35 mg/kg STZ injection will induce Type 1 diabetes phenotype.
- **X** The T2DM model induced by HFD and 25 mg/kg STZ injection easily recovers with normal dietfeeding.
- **X** Compared with the normal diet, continuing HFD was more preferable in the further pharmacological study using this model.