Rodent Models of Liver Fibrosis

CrownBio
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Conventional models with rapid nutritional or chemical-induced fibrosis

Rapidly and cost-effectively evaluate your compound effects on acute liver injury, advanced fibrosis, and fibrosis reversal

Choose from models with liver fibrosis rapidly induced by carbon tetrachloride (CCl$_4$), or use a cholesterol added choline deficient-fibrosis diet (CCDF) to also study fat accumulation in the liver.

CCl$_4$ Induction Mouse Models

- Rapid compound testing with severe fibrosis induced in as little as 4 weeks.
- Save time and money on studies, without having to wait for fibrosis development in overnutrition or nutritional deficit models.
- Utilize standard mouse models including Balb/c and C57BL/6.

CCDF Diet Induction Rodent Models

L-amino acid diet with 46% fat, reduced methionine, no added choline, and 1% cholesterol.

- Rapid moderate to severe liver fibrosis by 6-9 weeks.
- Animals do not experience severe weight loss typical of other diet induction models.
- Provides multiple targets for studying hepatic fat accumulation.
- Utilize Wistar rat or C57BL/6 mouse models.

Key Study Endpoints

- Liver weight.
- Liver enzymes (ALT, AST, ALP).
- Liver hydroxyproline.
- Liver injury panel (Meso Scale Diagnostics assay kit).
- Histopathology.
- Compare your agent with anti-fibrotic compounds such as sorafenib, obeticholic acid, and elafibranor, which lower inflammation, serum liver enzymes, liver fibrosis, and other endpoints across all models.

Liver cholesterol and liver fibrosis percentage in Wistar rats on normal control diet vs CCDF diet and CCDF plus elafibranor treatment

- Normal control diet
- CCDF 9 weeks
- CCDF 9 weeks+ elafibranor (20 mg/kg)
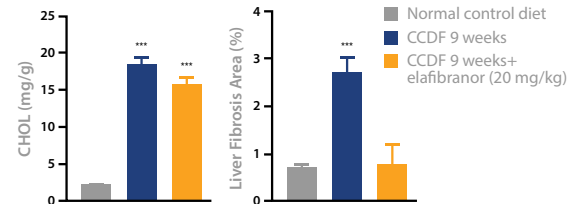
Histology images of livers from Wistar rats fed CCDF diet for 9 weeks with/without elafibranor treatment compared with normal control diet

	Normal control diet	CCDF 9 weeks	CCDF 9 weeks + elafibranor (20 mg/kg)
H&E			
PSR			
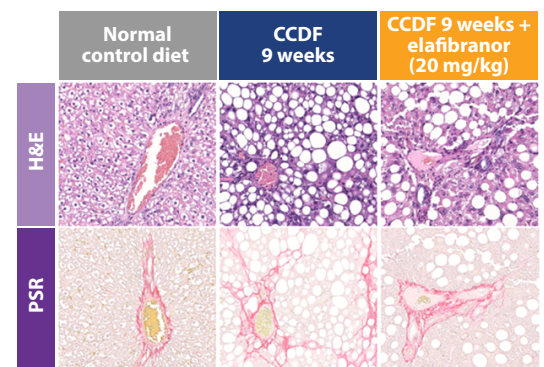
Representative histology images and group means of liver fibrosis from C57BL/6 mice on CCDF diet at 4, 6, and 12 weeks, and 12 weeks under administration of elafibranor

	H&E	PSR	Fibrosis Area (%)
4 weeks CCDF			1.40 ± 0.37 (n=3)
6 weeks CCDF			2.86 ± 0.71 (n=3)
12 weeks CCDF			8.98 ± 1.07 (n=6)
12 weeks CCDF + elafibranor			7.30 ± 1.18 (n=6)