

hC3

通过同源重组，将小鼠C3基因进行人源化修饰。风险提示：由于人源化C3 蛋白与小鼠补体调节因子的相互作用失调，hC3 小鼠会出现类似 C3G 患者的病理特征，纯合子小鼠死亡率高（约在10周龄时出现死亡，至15周龄左右，死亡率达到一半），不同批次小鼠死亡率和死亡时间可能存在差异。

品系全名	C57BL/6Smoc-C3 ^{em1(hC3)/Smoc}
目录号	NM-HU-2000079
品系状态	活体

基因信息

基因名 C3	基因曾用名	ASP; Plp; HSE-MSF; AI255234
	NCBI ID	12266
	MGI ID	88227
	Ensembl ID	ENSMUSG00000024164
	人类同源基因	C3

品系描述

通过同源重组，将小鼠C3基因进行人源化修饰。风险提示：由于人源化C3 蛋白与小鼠补体调节因子的相互作用失调，hC3 小鼠会出现类似 C3G 患者的病理特征，纯合子小鼠死亡率高（约在10周龄时出现死亡，至15周龄左右，死亡率达到一半），不同批次小鼠死亡率和死亡时间可能存在差异。

应用领域：免疫治疗；药物筛选

*使用本品系发表的文献需注明: hC3 mice (Cat. NO. NM-HU-2000079) were purchased from Shanghai Model Organisms Center, Inc..

验证数据

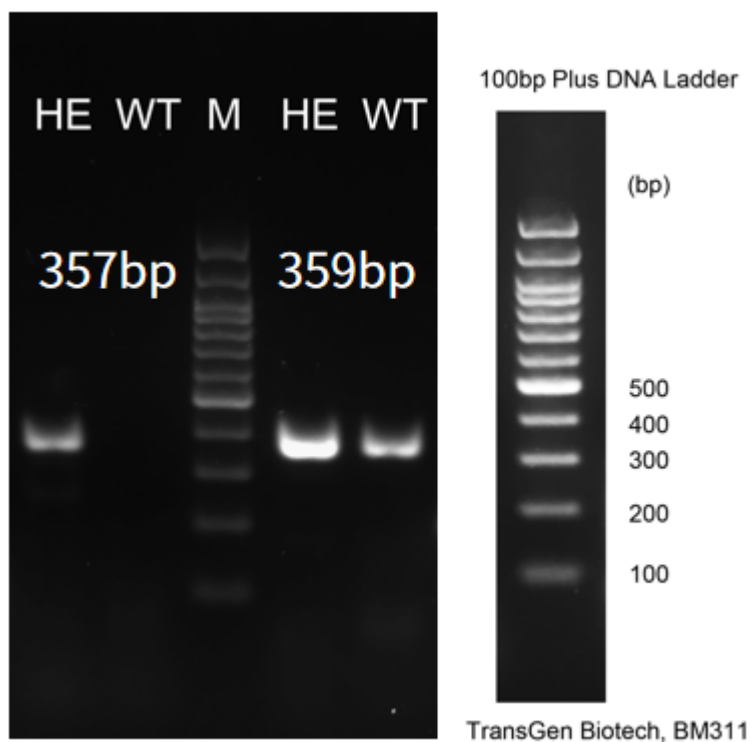


Fig1. Detection of C3 expression in liver by RT-PCR.

Wild type: only one band at 359 bp with primers F1/R1(mC3);

Heterozygous: one band at 359 bp with primers F1/R1(mC3) and one band at 357 bp with primers F2/R2(hC3);

Abbr. M, DNA marker; HO, homozygous; HE, heterozygous; WT, wild type.

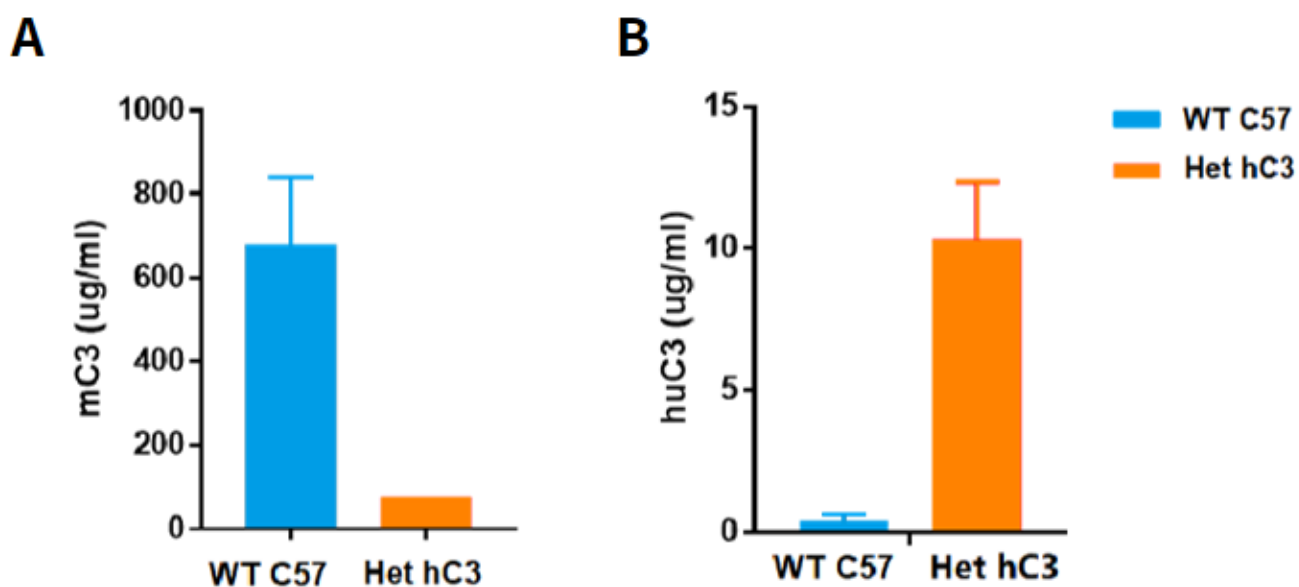


Fig 2. Detection of heterozygous hC3 expression in serum by ELISA.

Abbr. Het, heterozygous; WT, wild type.

Note: Data from the collaborator.

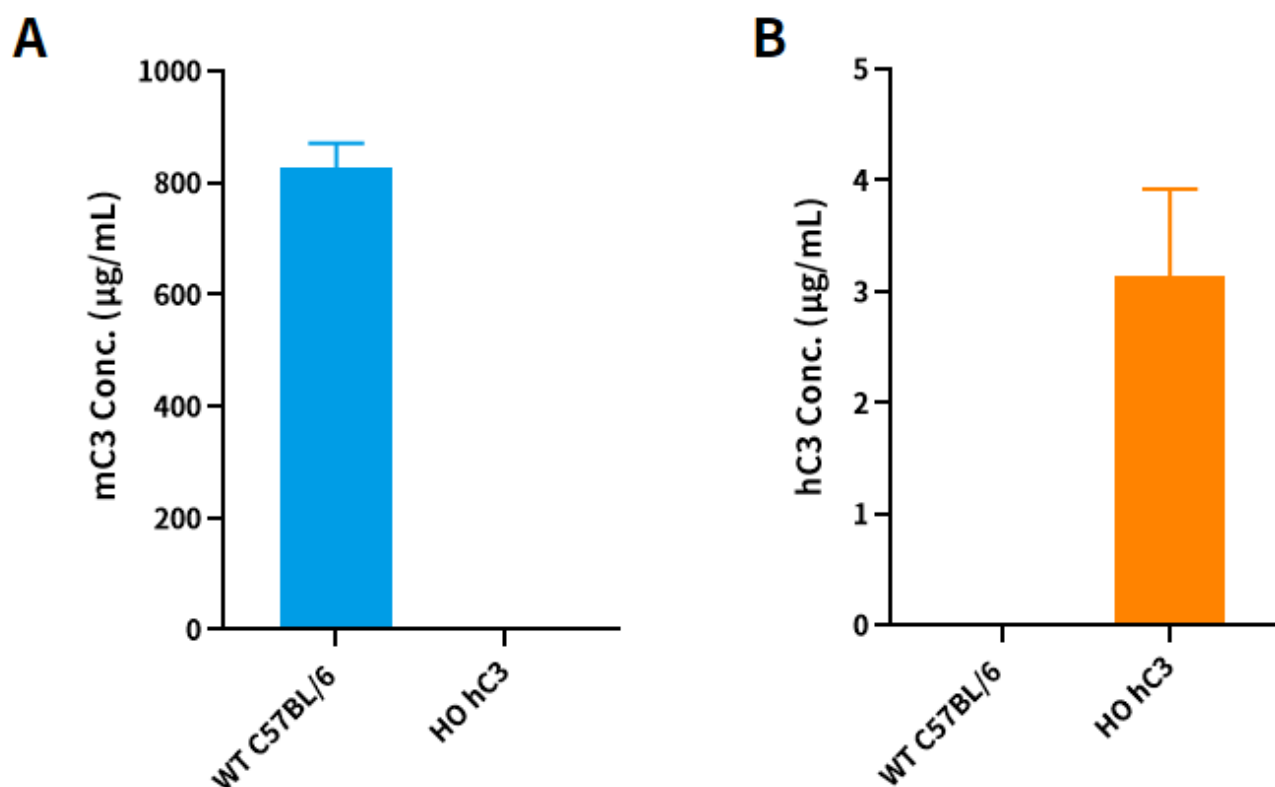


Fig 3. Detection of hC3 expression in serum by ELISA(n=3).

Note: The human Complement C3 ELISA Kit (ab108823) specifically recognized humanized C3.

Abbr. HO, homozygous; WT, wild type.

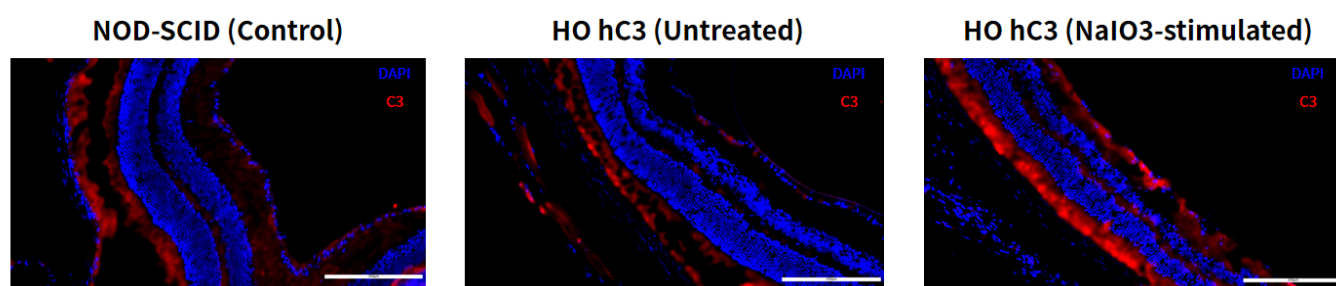


Fig 4. Detection of hC3 expression in eyes in HO hC3 KI mice by IF (n=5/group).

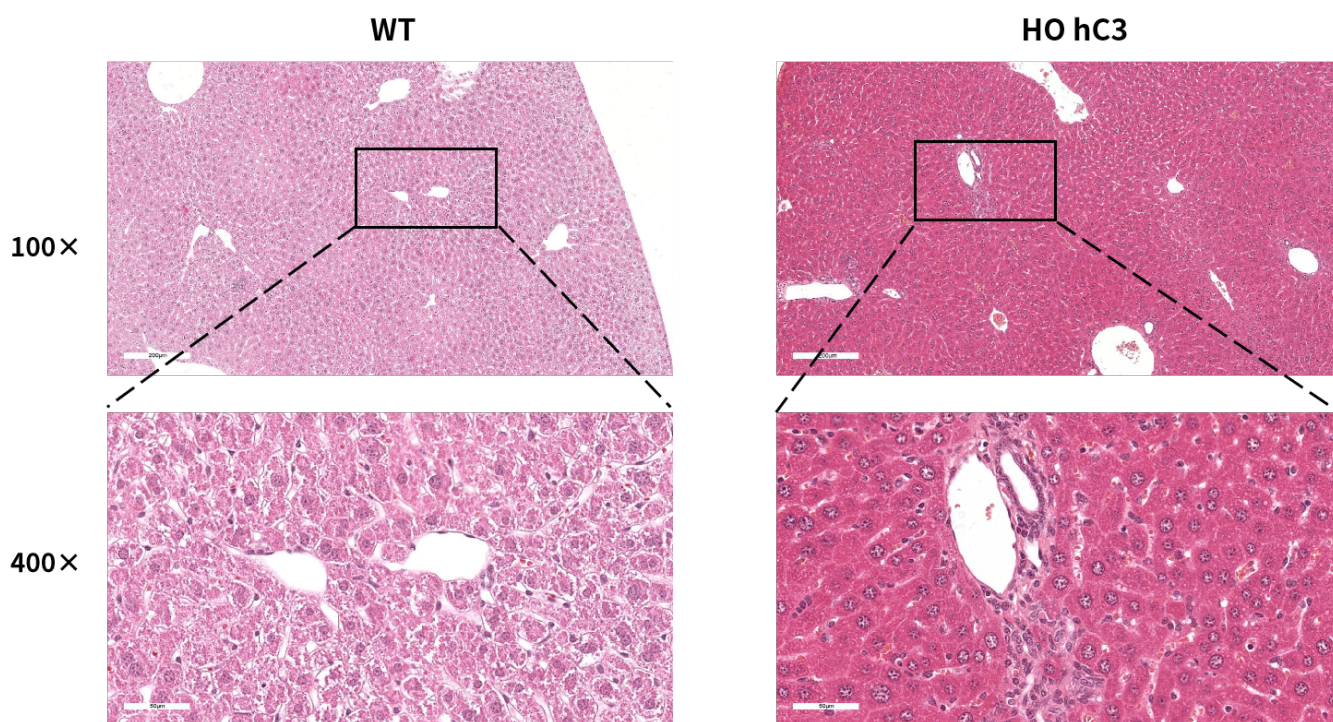


Fig 5. The HO hc3 mice showed inflammation in the portal region and bile duct hyperplasia (100x and 400x)

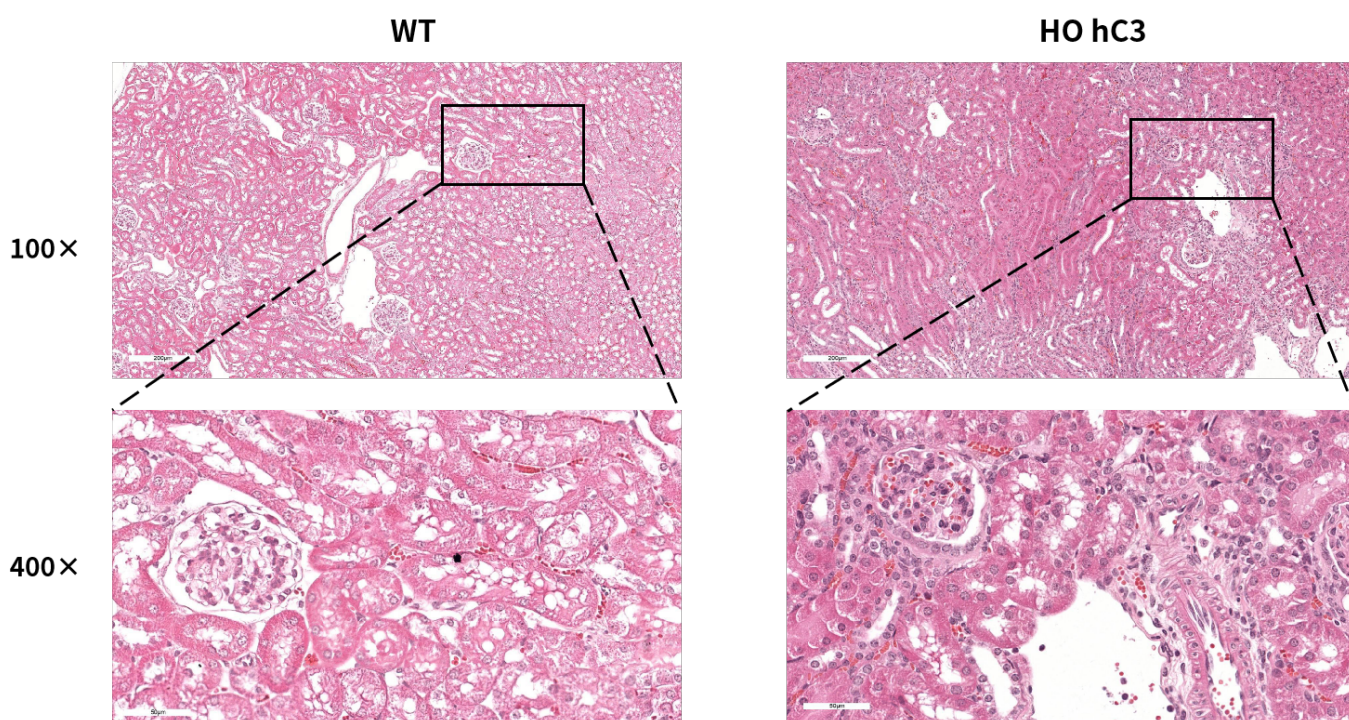


Fig 6. The HO hc3 mice showed glomerular sclerosis, glomerular atrophy and inflammation of the capillary tufts area (100x and 400x)

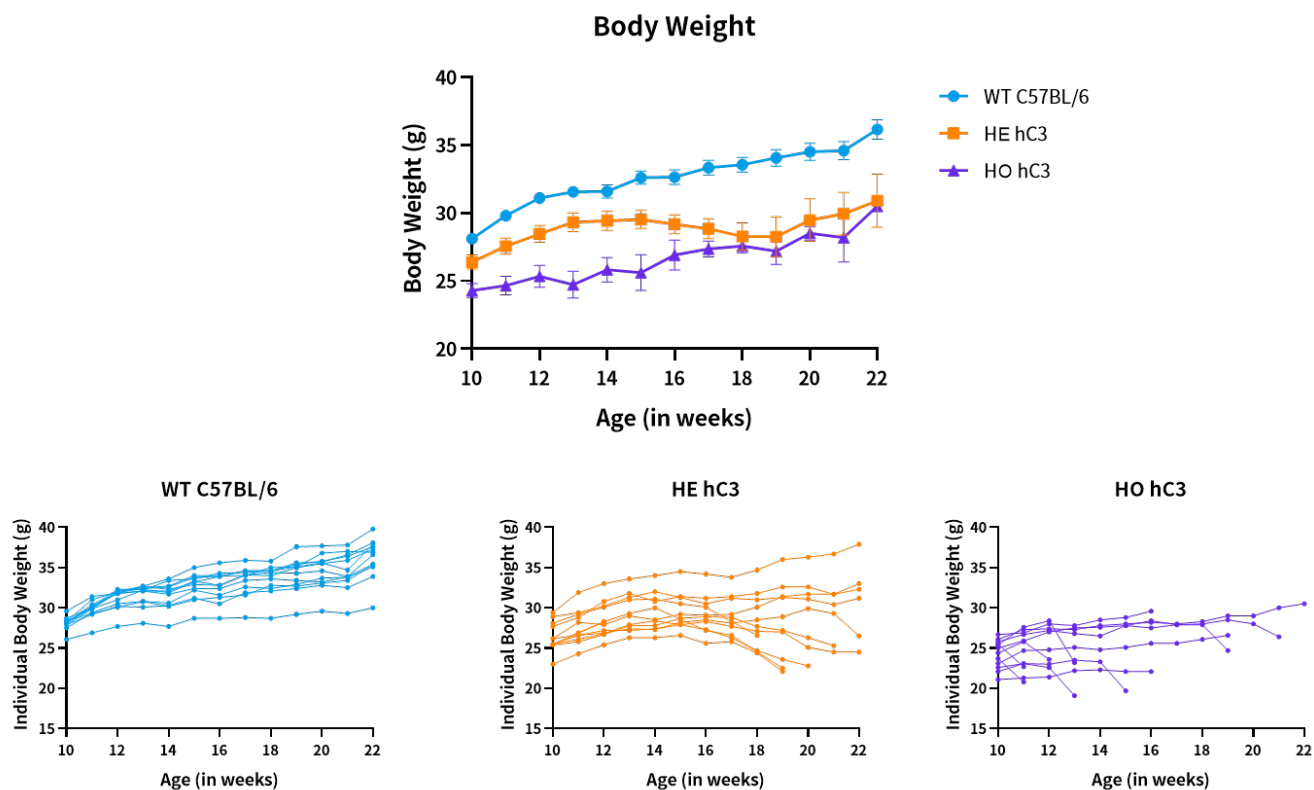


Fig 7. Body Weight of HO hC3 mouse (n=12/group).

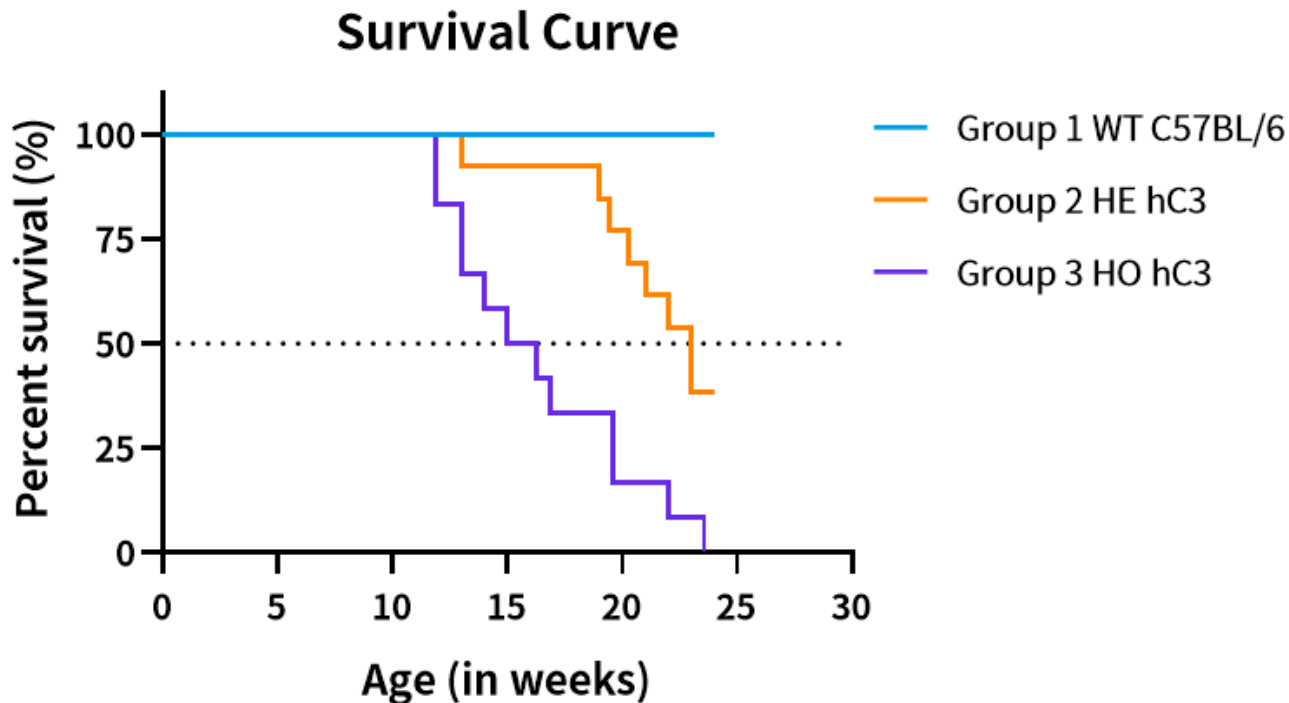


Fig 8. Survival curve of HO hC3 mouse (n=12/group).

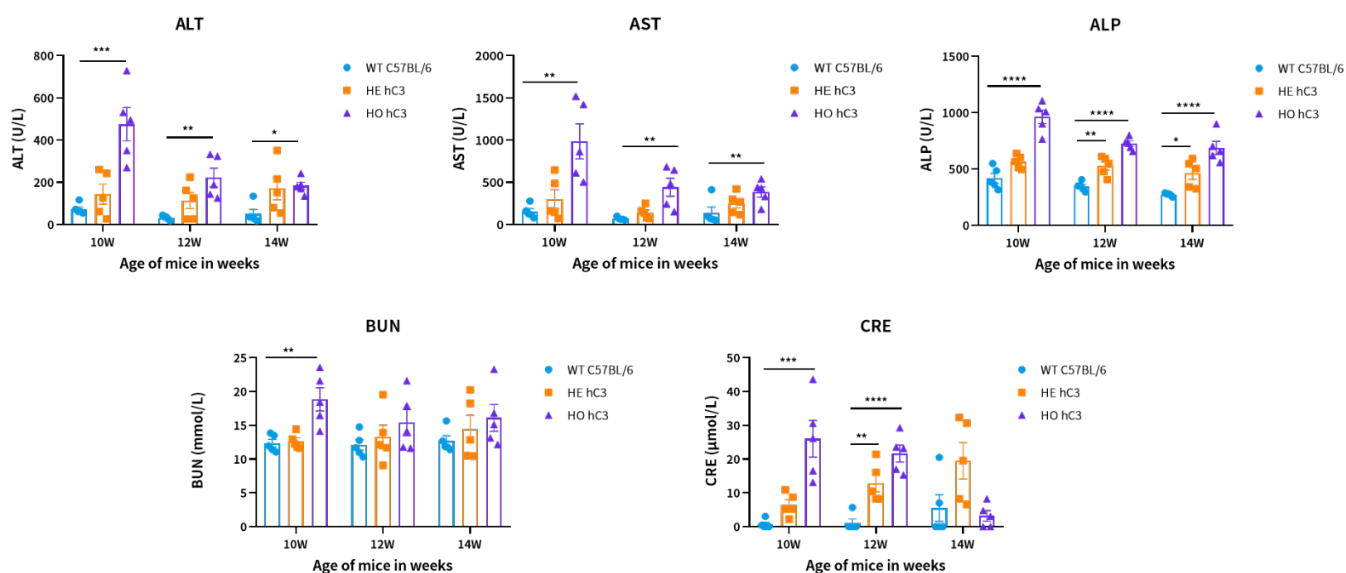


Fig 9. Serum Biochemistry of HO hC3 mouse (n=5/group).

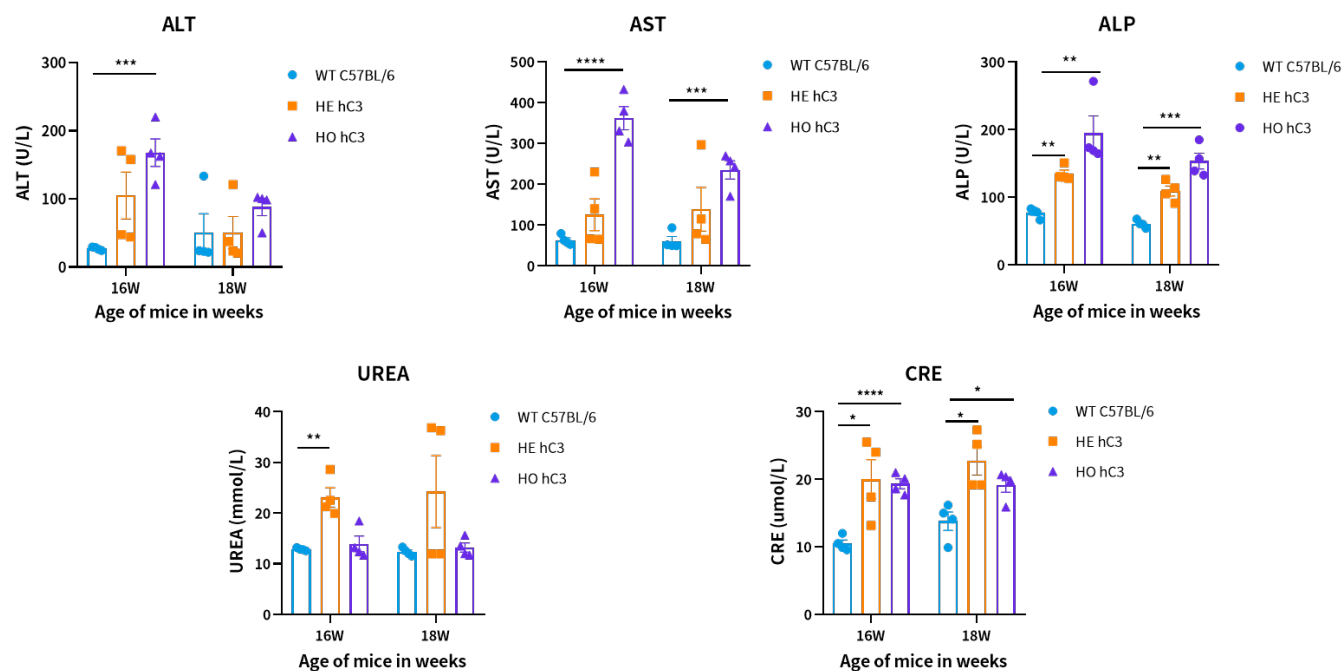


Fig 10. Serum Biochemistry of HO hC3 mouse (n=5/group, a different biochemical analyzer was used than in Fig 9).

15 weeks old	WT C57BL/6	HE hC3	HO hC3
	RACK:0002-01 ID. 20231103 G1 C. 00000003 Strip 11A 11/28/23 17:27 URO normal mg/dL BLD - mg/dL BIL - mg/dL KET - mg/dL GLU - mg/dL *PRO 1+ 30 mg/dL pH 7.0 NIT - LEU - c/uL CRE 10 mg/dL ALB 80 mg/L *P/C 2+ >=0.50g/gCr *A/C 2+ >=300 mg/gCr S.G 1.037 COLOR YELLOW# CLOUD 2+	RACK:0002-02 ID. 20231103 G2 C. 00000004 Strip 11A 11/28/23 17:27 URO normal mg/dL BLD - mg/dL BIL - mg/dL *KET 1+ 10 mg/dL GLU - mg/dL PRO +- 15 mg/dL pH 5.5 NIT - LEU - c/uL CRE 10 mg/dL ALB 80 mg/L *P/C 2+ >=0.50g/gCr *A/C 2+ >=300 mg/gCr S.G 1.039 COLOR YELLOW# CLOUD -	RACK:0002-03 ID. 20231103 G3 C. 00000005 Strip 11A 11/28/23 17:34 URO normal mg/dL BLD - mg/dL BIL - mg/dL *KET 1+ 10 mg/dL GLU - mg/dL PRO +- 15 mg/dL pH 5.5 NIT - LEU - c/uL CRE 50 mg/dL ALB 80 mg/L *P/C 1+ 0.30 g/gCr *A/C 1+ 150 mg/gCr S.G 1.035 COLOR YELLOW# CLOUD 1+
16 weeks old	WT C57BL/6	HE hC3	HO hC3
	RACK:0002-04 ID. 20231110 G1 C. 00000006 Strip 11A 11/28/23 17:35 URO normal mg/dL BLD - mg/dL BIL - mg/dL KET - mg/dL GLU - mg/dL PRO +- 15 mg/dL pH 7.5 NIT - LEU - c/uL CRE 10 mg/dL ALB 30 mg/L *P/C 2+ >=0.50g/gCr *A/C 2+ >=300 mg/gCr S.G 1.030 COLOR STRAW CLOUD -	RACK:0002-05 ID. 20231110 G2 C. 00000007 Strip 11A 11/28/23 17:35 URO normal mg/dL BLD - mg/dL BIL - mg/dL *KET 1+ 10 mg/dL GLU - mg/dL PRO +- 15 mg/dL pH 6.0 NIT - LEU - c/uL CRE 50 mg/dL ALB 80 mg/L *P/C 1+ 0.30 g/gCr *A/C 1+ 150 mg/gCr S.G 1.045 COLOR YELLOW# CLOUD 1+	RACK:0002-06 ID. 20231110 G3 C. 00000008 Strip 11A 11/28/23 17:35 *URO 1+ 2.0 mg/dL BLD +- 0.03 mg/dL BIL - mg/dL *KET 1+ 10 mg/dL GLU - mg/dL *PRO 1+ 30 mg/dL pH 5.5 NIT - LEU - c/uL CRE 10 mg/dL ALB 150 mg/L *P/C 2+ >=0.50g/gCr *A/C 2+ >=300 mg/gCr S.G 1.050 COLOR YELLOW# CLOUD 2+

Fig 11. Urinalysis of HO hC3 mouse.

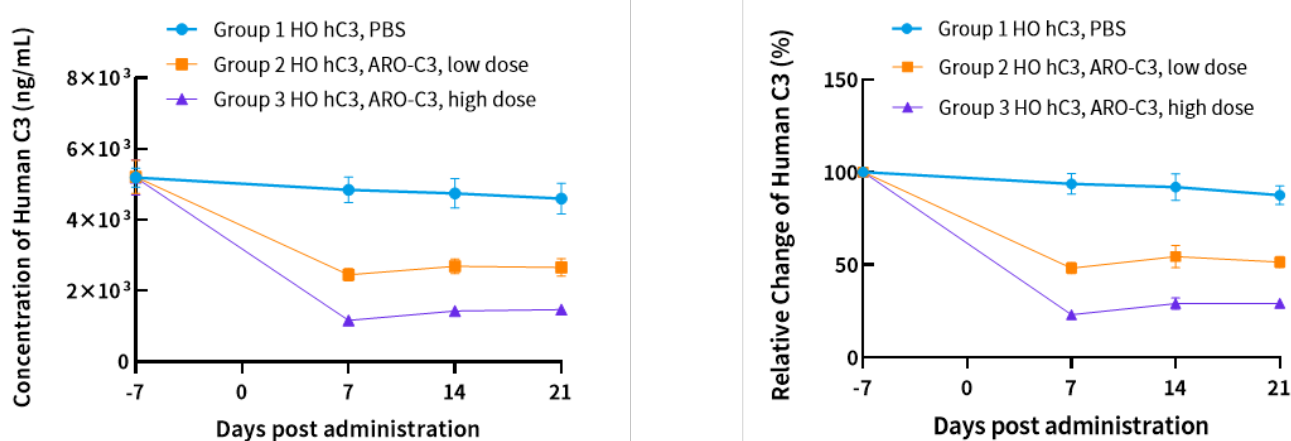


Fig 12. Single dose of ARO-C3 reduced serum hC3 levels of HO hC3 mouse (n=7-8/group).

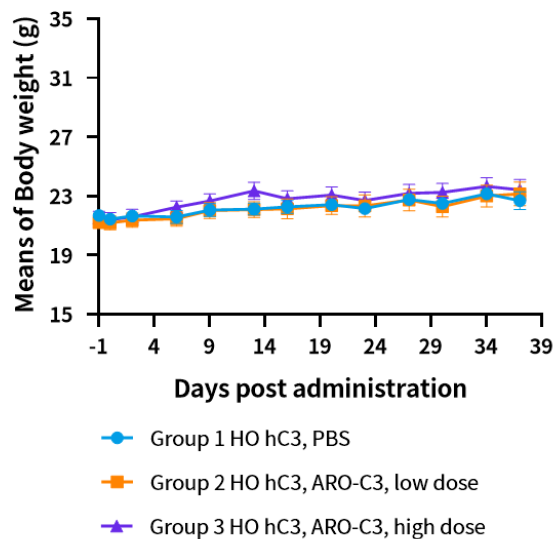
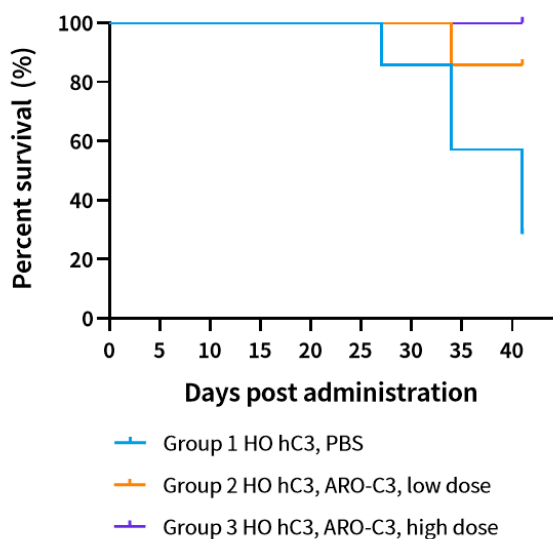


Fig 13. Survival curve and body weight of HO hC3 mouse post ARO-C3 treatment (n=7-8/group).