

Uox-KO(2)

系統名	C57BL/6Smoc- <i>Uox</i> ^{em1Smoc}
SMOC番号	NM-KO-191205
維持形態	Repository Live

遺伝子の概要

Gene Symbol Uox	Synonyms	AI663847
	NCBI ID	22262
	MGI ID	98907
	Ensembl ID	ENSMUSG00000028186
	Human Ortholog	UOX

説明

Uox-KO(2) mice (Stock No. NM-KO-191205) carry a knockout allele derived from the targeted deletion of exon 3-4.

応用分野: hyperuricemia research

*Literature published using this strain should indicate: Uox-KO(2) mice (Cat. NO. NM-KO-191205) were purchased from Shanghai Model Organisms Center, Inc..

病気の予測

nephrogenic diabetes insipidus	表現型	MGI:3687865
	参考文献	Kelly SJ, Delnomdedieu M, Oliverio MI, Williams LD, Saifer MG, Sherman MR, Coffman TM, Johnson GA, Hershfield MS, Diabetes insipidus in uricase-deficient mice: a model for evaluating therapy with poly(ethylene glycol)-modified uricase. J Am Soc Nephrol. 2001 May;12(5):1001-9

表現型データ

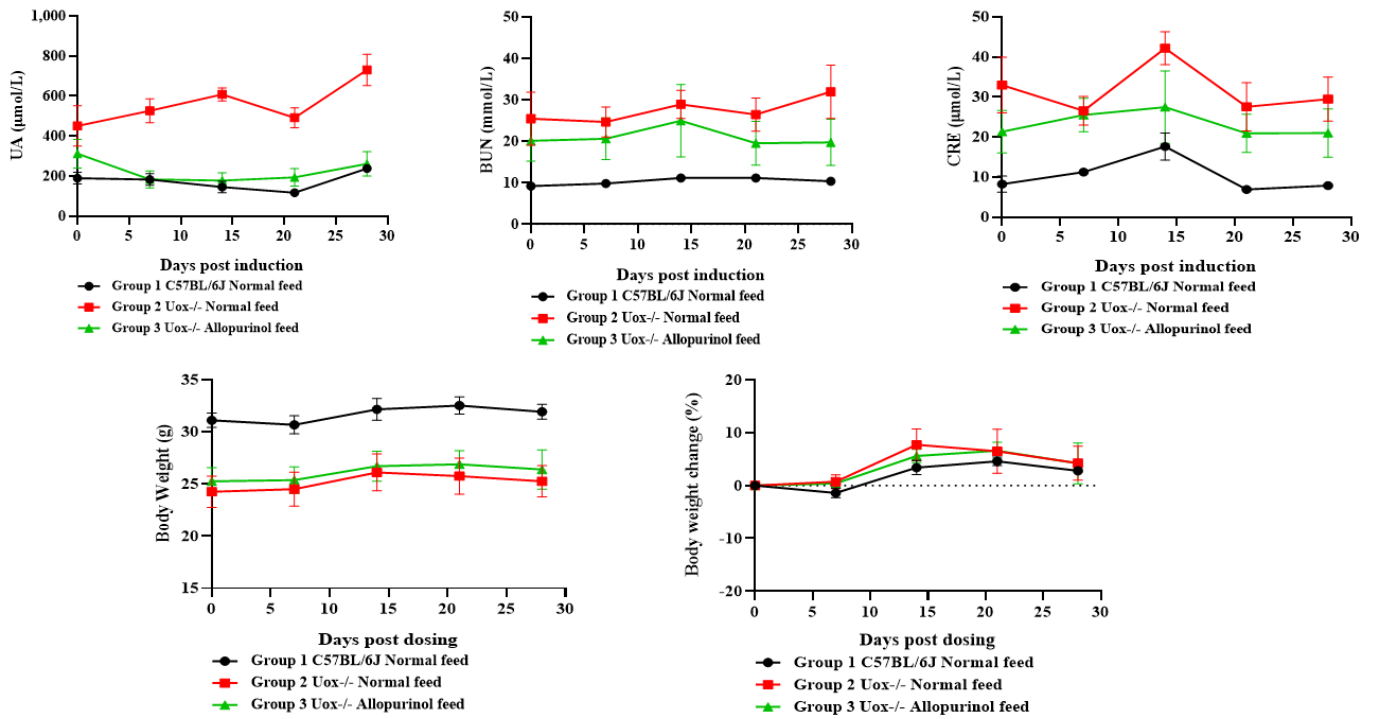
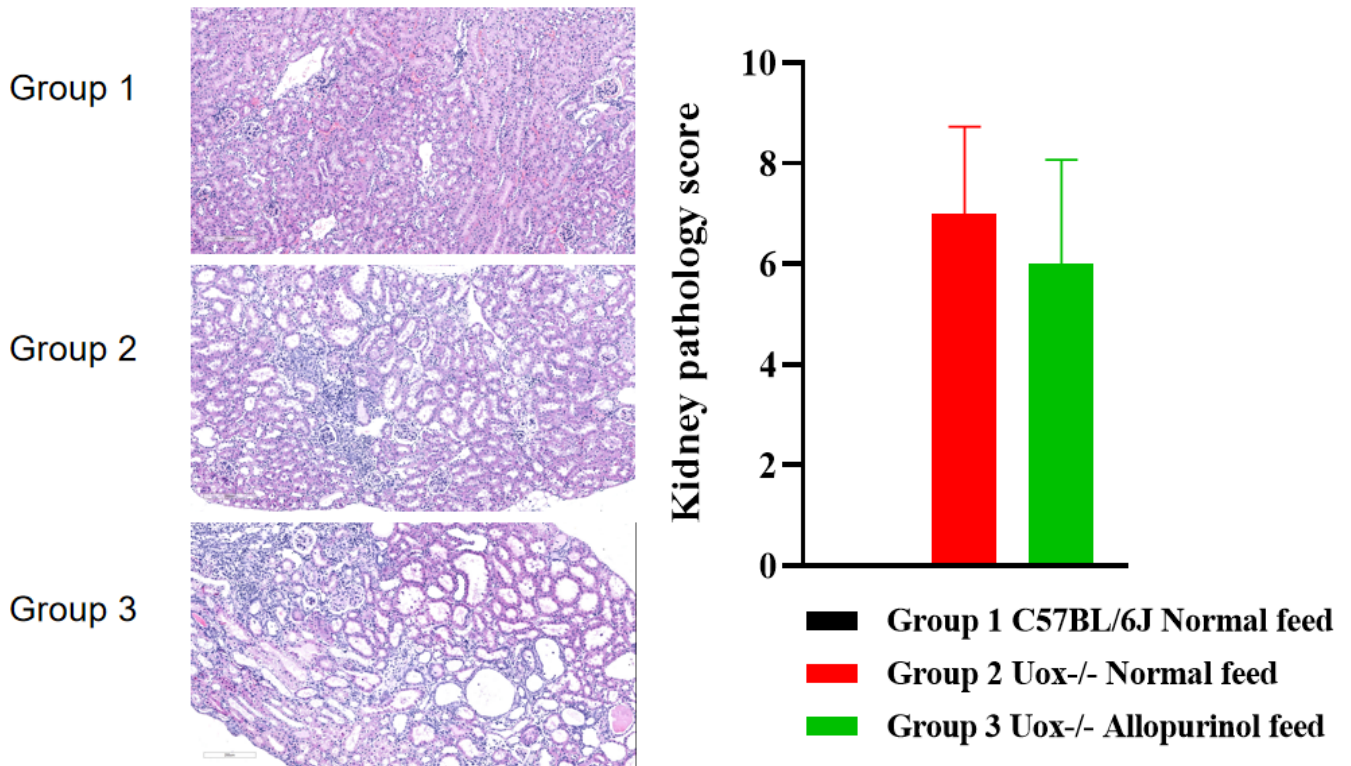


Fig1. Construction of hyperuricemic model in Uox-ko mice.

Uox-KO female mice were fed a synthetic diet containing allopurinol during pregnancy (Group 3), and the male offspring continued to be fed for 10 weeks after birth, with the levels of UA (uric acid), BUN (blood urea nitrogen), and body weight of the mice being measured.



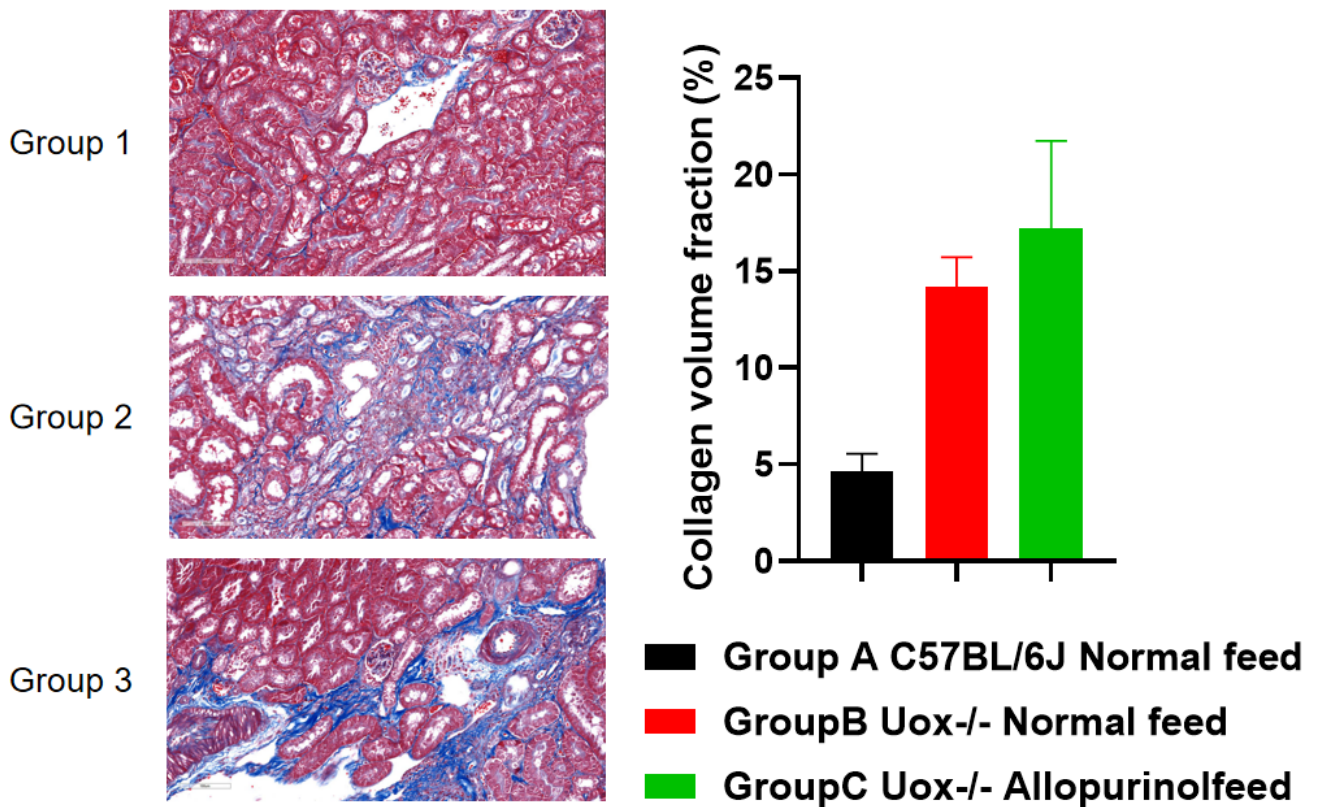


Fig 2. Histological observation of kidney tissue in Uox-KO mice (HE & Masson staining).

The results showed that the kidneys of Uox-KO mice exhibited interstitial fibrosis, inflammatory cell infiltration; glomerular atrophy, mesangial tissue proliferation; thickening of the vascular walls; dilation of renal tubules forming cysts; and homogeneous red-stained material exudation within the lumen of the renal tubules. Allopurinol (Group 3) was unable to ameliorate the kidney lesions caused by Uox-KO in mice. Uox-KO mice exhibit elevated uric acid levels and kidney damage similar to clinical conditions, and hyperuricemia treatment drugs can demonstrate the efficacy of lowering blood uric acid levels in these mice. Therefore, these mice can serve as a suitable model for the study of hyperuricemia and the evaluation of related drug effects.

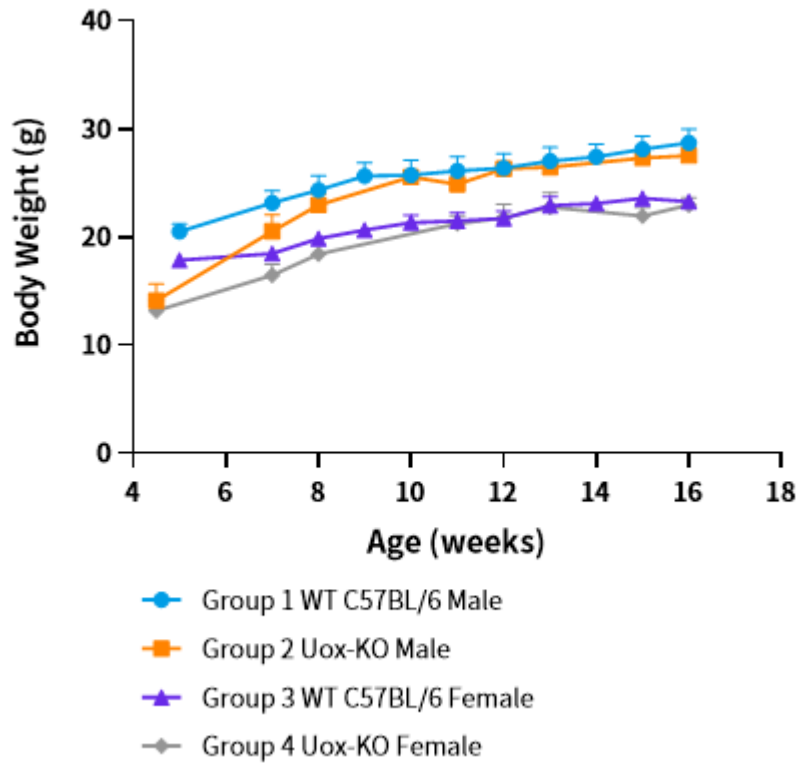


Fig 3. Body Weight of Uox-KO mice.

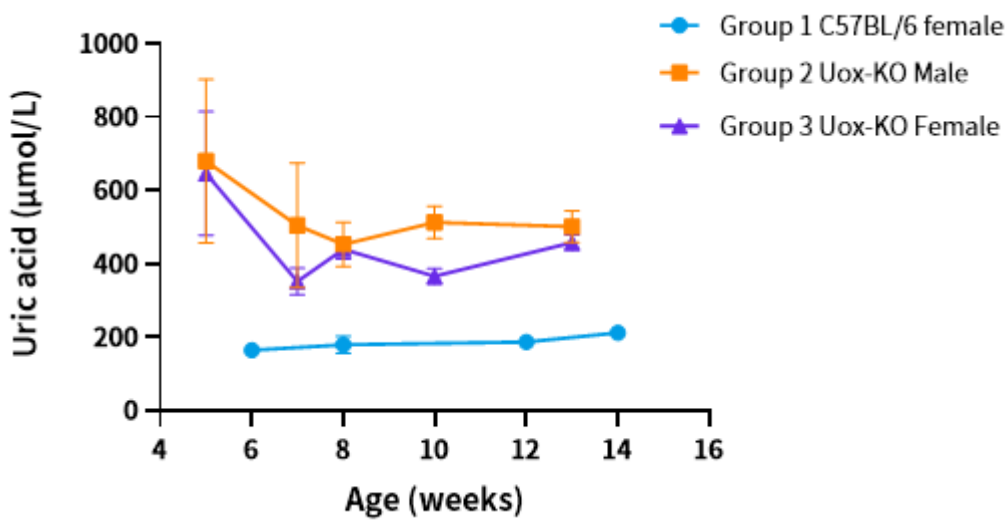


Fig 4. Uric acid (UA) levels of Uox-KO mice.

The results showed that the UA levels in Uox KO mice were significantly higher compared to the wild-type control mice.