Electronic supplementary information (ESI) for

Ferulic acid supplementation alleviates hyperuricemia in high-fructose/fat diet-fed rats *via* promoting uric acid excretion and mediating the gut microbiota

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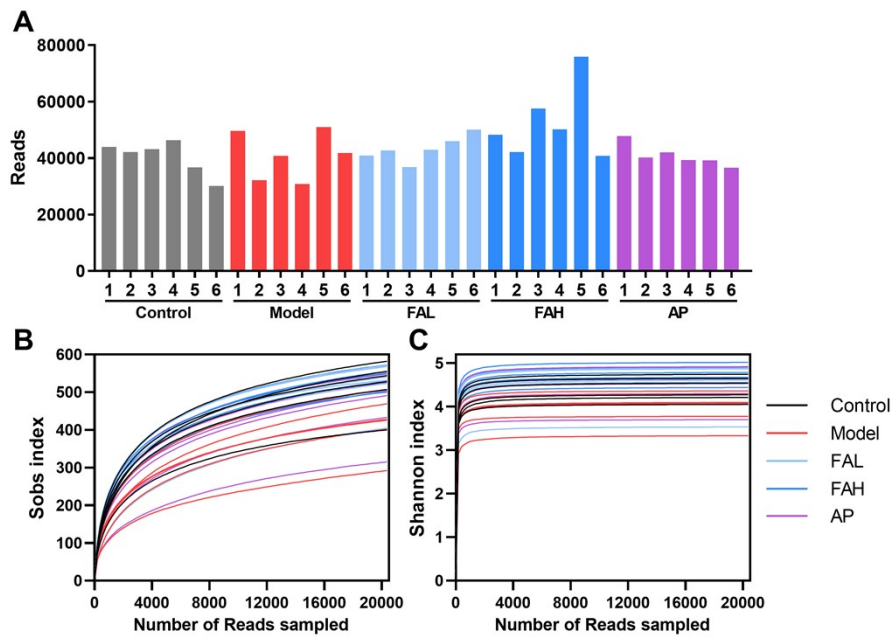
Figure

Fig. S1 Diversity estimation of the gut microbiota in each sample. (A) The number of clean reads. Rarefaction curves based on Sobs (B) and Shannon (C) indices at the operational taxonomic unit level. Control: control group supplied with a standard diet; Model: model group supplied with a HFFD; FAL: low-dose FA group supplied with a HFFD containing 0.05% FA; FAH: high-dose FA group supplied with a HFFD containing 0.1% FA; AP: allopurinol group supplied with a HFFD containing 0.0145% allopurinol.

Tables

Table S1 Composition of diets in different groups

	Control	Model	FAL	FAH	AP
corn starch (g/kg)	250	-			
wheat middling (g/kg)	200	-			
refined wheat flour (g/kg)	219	420	420	420	420
soybean meal (g/kg)	200	80	80	80	80
fructose (g/kg)	-	180	180	180	180
lard (g/kg)	-	200	200	200	200
chicken powder (g/kg)	-	80	80	80	80
sodium cholate (g/kg)	-	2	2	2	2
miscellaneous meal (g/kg)	45	-	-	-	-
vegetable oil (g/kg)	20	-	-	-	-
fish meal (g/kg)	20	-	-	-	-
calcium bicarbonate (g/kg)	10	10	10	10	10
mountain flour (g/kg)	16	8	8	8	8
vitamin & mineral mixture (g/kg)	20	20	20	20	20
ferulic acid (g/kg)	-	-	0.5	1	-
allopurinol (g/kg)	-	-	-	-	0.145

Control: control group supplied with a standard diet; Model: model group supplied with a HFFD; FAL: low-dose FA group supplied with a HFFD containing 0.05% FA; FAH: high-dose FA group supplied with a HFFD containing 0.1% FA; AP: allopurinol group supplied with a HFFD containing 0.0145% allopurinol.

Table S2 Sequences of the human-specific primers used for quantitative real-time polymerase chain reaction

Gene	Sense	Sequence (5′-3′)	No.
SLC22A12	F	CGTGTACTGCCTGTTCCGCT	NM_144585.4
	R	CCACTCCATCAGGAGAGTGCC	
SLC2A9	F	CCTCTACGGCTACAACCT	NM_020041.3
	R	GATGGCGAATATGGACACA	
TLR4	F	GGACCTTTCCAGCAACAAGA	NM_138554.5
	R	CAGGGACAGGTCTAAAGAGAGA	
MYD88	F	CCAGTTTGTGCAGGAGATGA	NM_001172567.2
	R	GCTCACTAGCAATAGACCAGAC	
IKBKB	F	CCAGCCAAGAAGAGTGAAGAA	NM_001556.3
	R	CCGTGAAACTCTGGTCTTGT	
NFKBIA	F	CTCCGAGACTTTCGAGGAAATAC	NM_020529.3
	R	CCATTGTAGTTGGTAGCCTTCA	
NFKB1	F	GAGACATCCTTCCGCAAACT	NM_003998.4
	R	GGTCCTTCCTGCCCATAATC	
GAPDH	F	GATTCCACCCATGGCAAATTC	NM_002046.7
	R	CTGGAAGATGGTGATGGGATT	

**Table S3** Sequences of the rat-specific primers used for quantitative real-time polymerase chain reaction

Gene	Sense	Sequence (5′-3′)	No.
Slc22a12	F	TCTTCTGGTGTCTGTGTCT	NM_001034943.1
	R	GCTGGCTGTGTTCATCAT	
Slc2a9	F	CTGAGAGTCCACGATACCT	NM_001191551.1
	R	CGCATTGAGTCCACATAGT	
Slc22a9	F	AAGTATGAGGCTGGTGAGA	NM_177481.1
	R	GTGGTCGTCAATGTAGGAG	
Slc22a13	F	GAGGCTCACTACTGTTCAG	NM_001126285.1
	R	GTGGCTCAGGATGTCTTC	
Abcg2	F	GGACAAGCATAGGAATGGA	NM_181381.2
	R	CTGGTGAATGGAGAAGATGA	
Slc22a6	F	AATGTGGAATGGATGCCTAT	NM_017224.2
	R	GAAGAACCAAGAGTAGATGAAG	
Slc22a8	F	TGAGCACCGTTATCTTGAAT	NM_031332.1
	R	CACTGAGGAATGGCATAGG	
Slc22a1	F	CTGTGTGAACTTGGGCTTCT	NM_012697.1
	R	GTCACCAAGAGACAGAGCTTAC	
Slc22a2	F	CTGGAGTGGCCTATGTGATTC	NM_031584.2
	R	CCGGTATGCACCAGAAATAGAG	
Slc22a4	F	GAGGAGATTTGAAGAGGCAGAA	NM_022270.2
	R	GCTCCAGAGGATCGAATATCAC	
Slc22a5	F	CCTCAGTCGCACCACATTTA	NM_019269.1
	R	ATGGTCAGCCACAGGATTATG	
Slc17a1	F	GTGCATTCCTGGAGTCTTGATA	NM_133554.2
	R	CATTGGGTATGCTCCAGATAGG	
Tlr4	F	CAGAGCCGTTGGTGTATCTT	NM_019178.2
	R	AGCAAGGACTTCTCCACTTTC	
Myd88	F	GAAGCGACTGATCCCTATCAAG	NM_198130.2
	R	TTGGTGCAAGGGGTTGGTATAG	
Ikbkb	F	CCAAGAGACCAAAGGACAGAAG	NM_053355.3
	R	GAGAGTAAATCACCCGCACTTT	
Nfkbia	F	AGTAACCTACCAGGGCTACTC	NM_001105720.2
	R	ATAGCTCTCCTCATCCTCACTC	
Nfkb1	F	GGTTACGGGAGATGTGAAGATG	NM_001276711.1
	R	GTGGATGATGGCTAAGTGTAGG	
Gapdh	F	GCTGCCTTCTCTTGTGAC	NM_017008.4
	R	CTTGACTGTGCCGTTGAA	

Raw images of Western blot

β-actin

45 kDa

URAT1
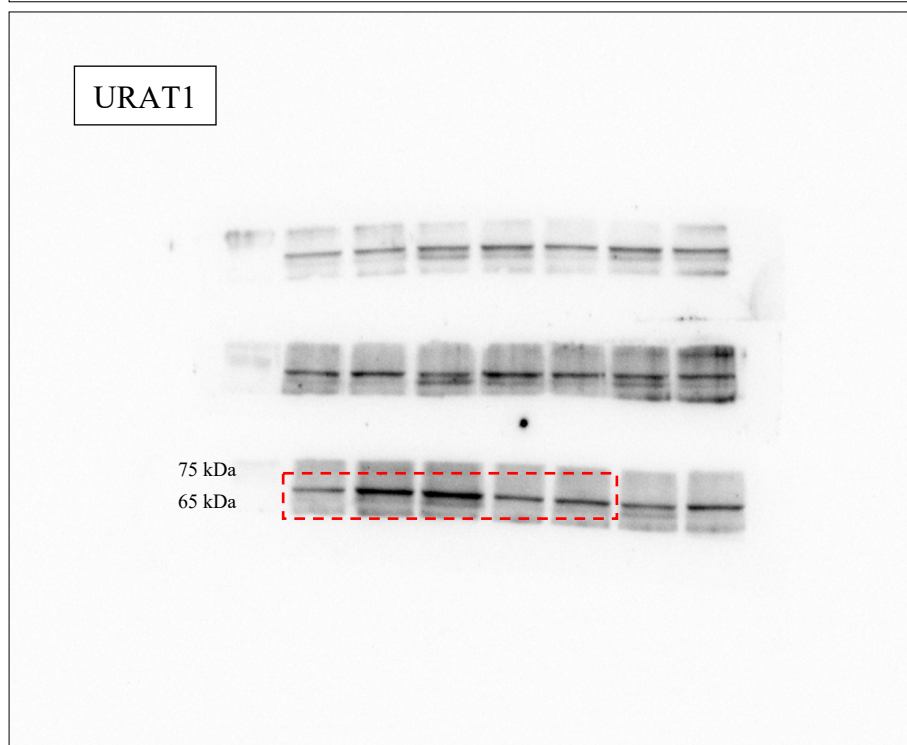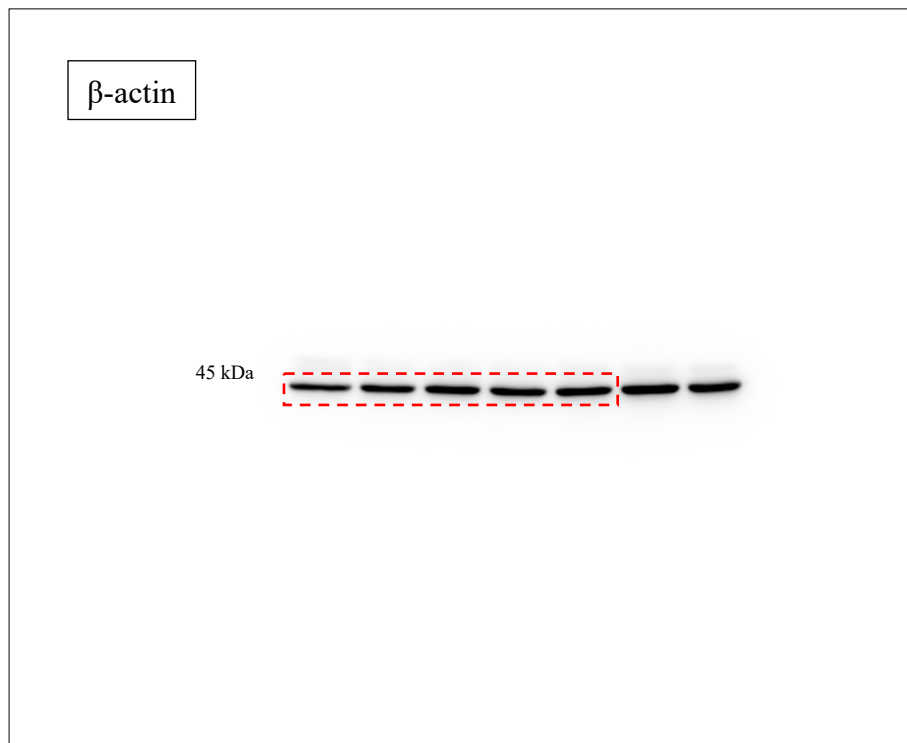
75 kDa
65 kDa

GLUT9
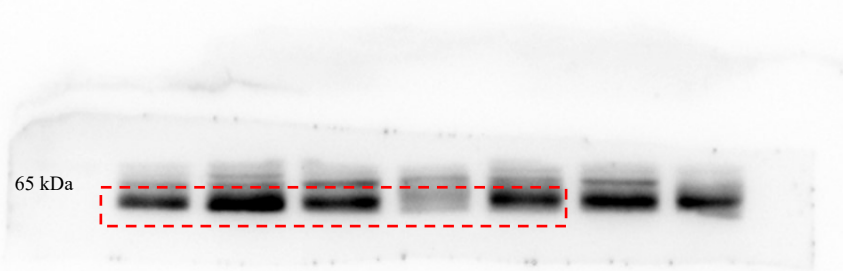
65 kDa

ABCG2

75 kDa
65 kDa
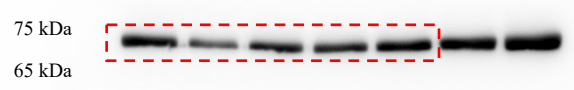
OAT3

65 kDa

OCT1

65 kDa
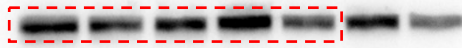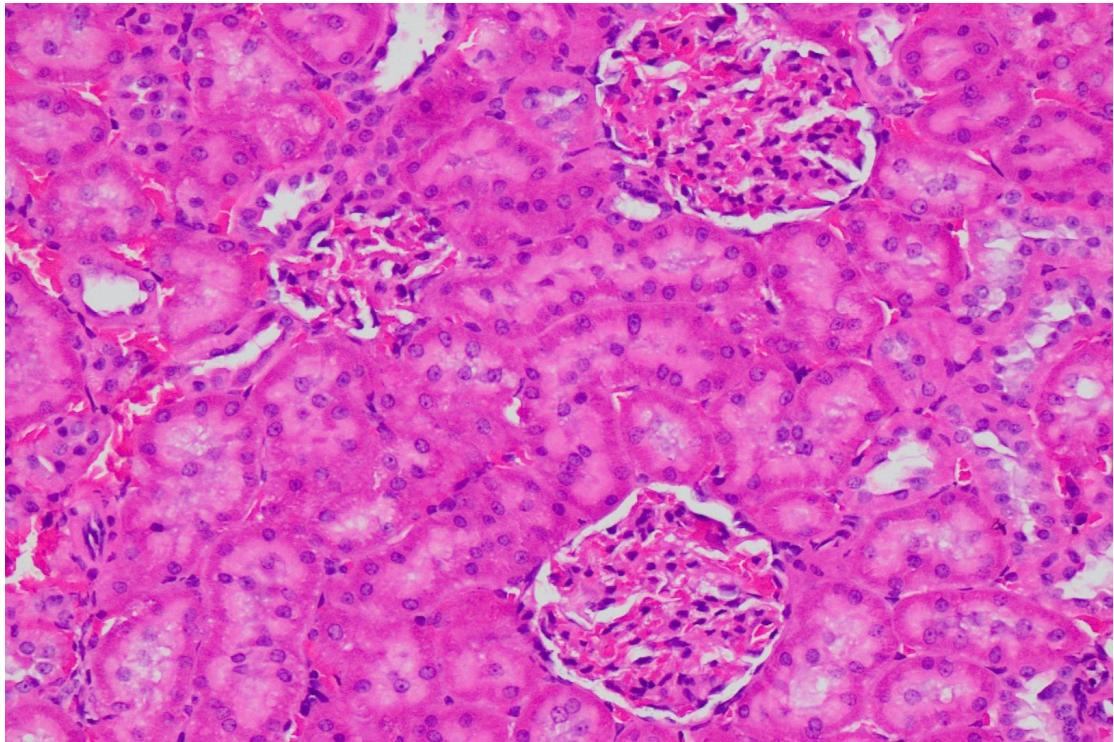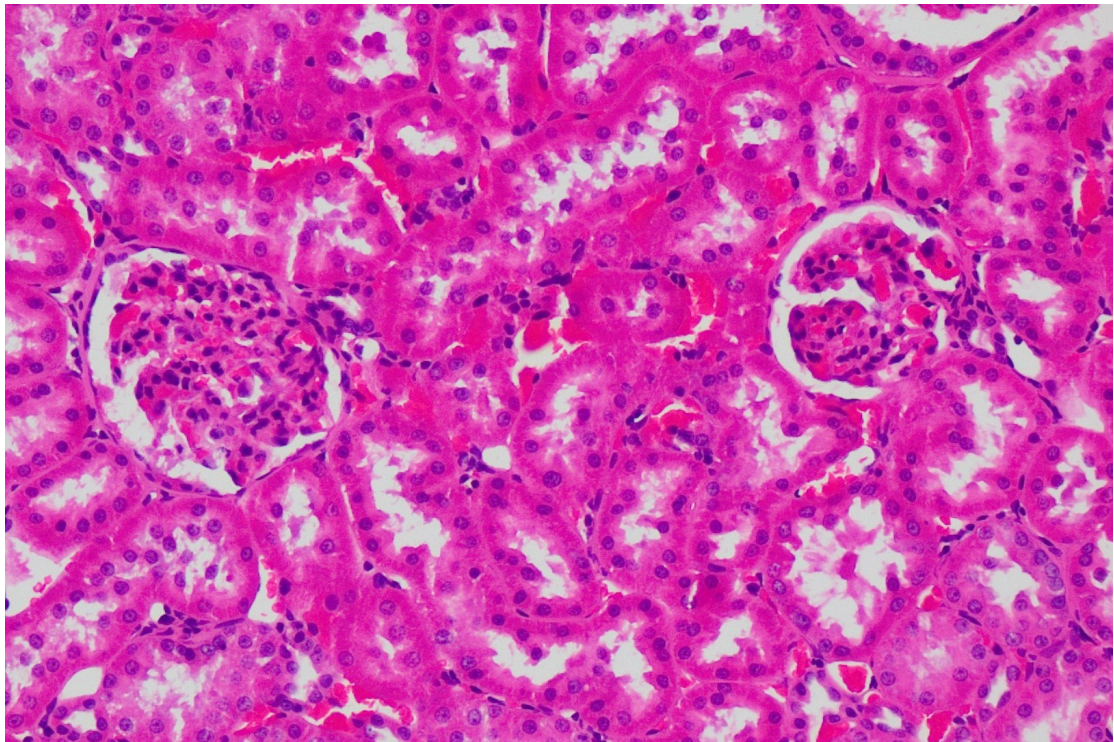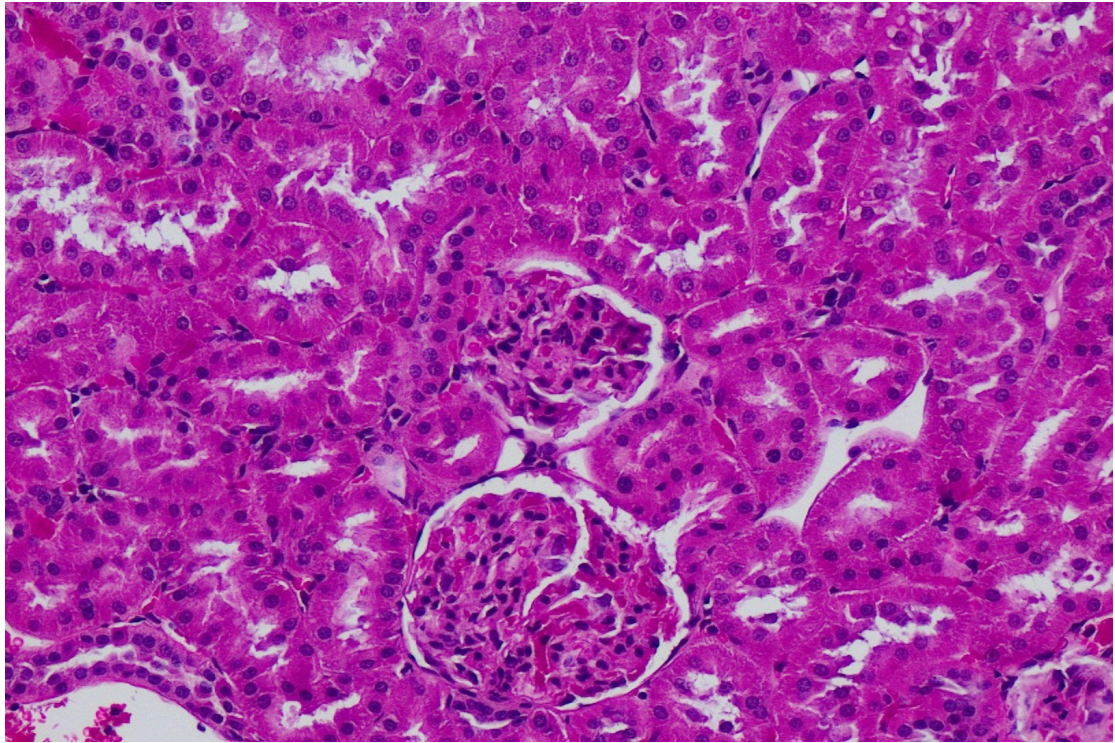
OCT2

65 kDa

OCTN2

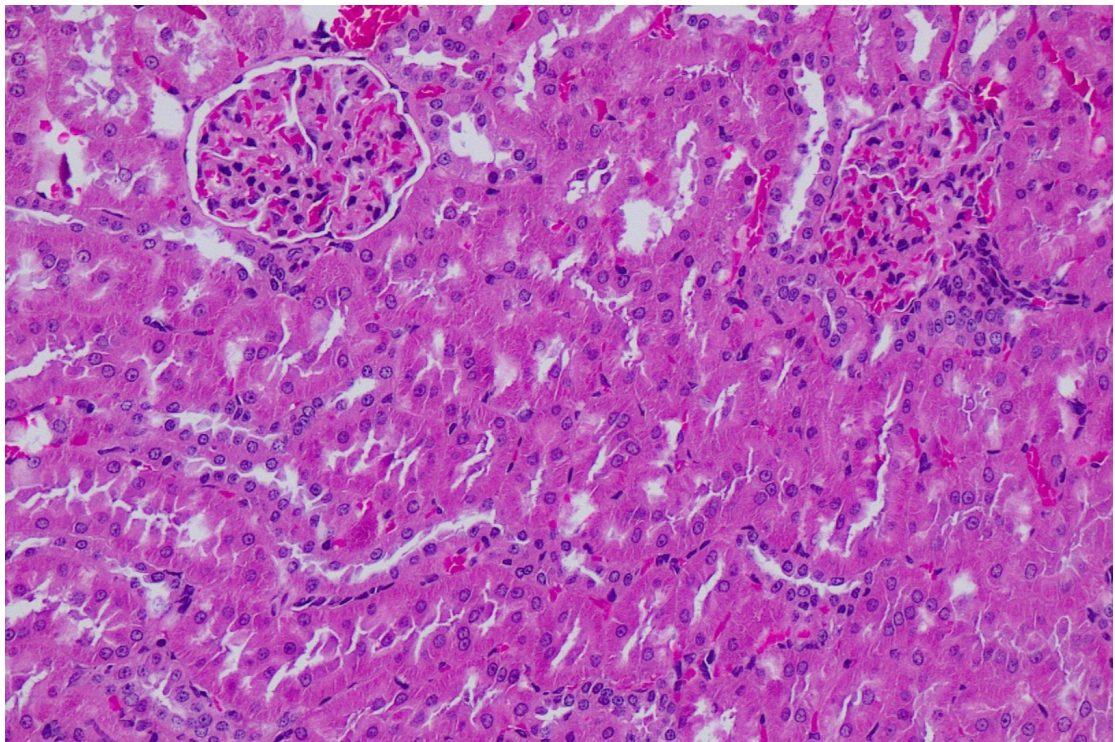75 kDa

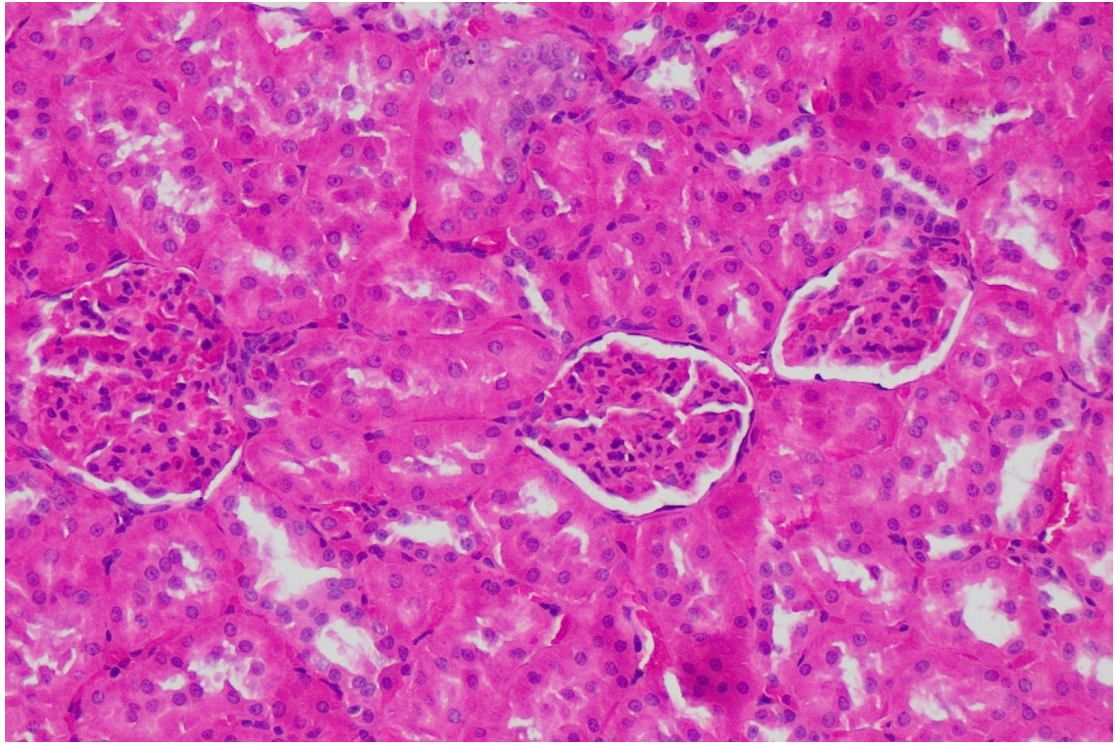**Raw images of H&E staining micrographs in kidney tissues**

Control

Model

FAL

FAH

AP