BALB/c-nu

Strain Name: BALB/cNj-Foxn1nu/Gpt
Strain Type: Mutation
Strain Number: D000521

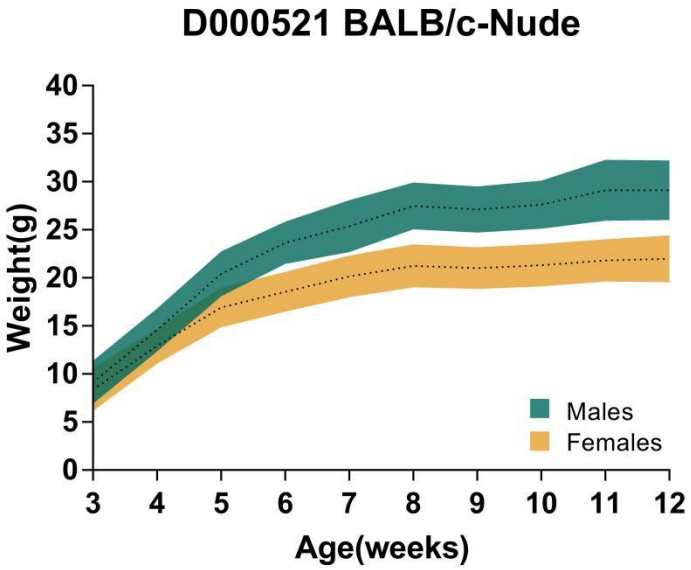
Description

Foxn1, encoded by Foxn1 (Forkhead box N1, also called Hfh11 or Fkh19) gene, is a transcription factor expressed in thymic epithelium. Foxn1 plays an important role in a wide range of biological and pathological process, such as immune response, tumor formation, metabolic reaction and senescence. BALB/c-nu, also called nude mouse, is a strain carrying mutant Foxn1 gene (Foxn1nu) and thus defective in thymic epithelium development and abnormal hair growth. Although appeared hairless, these nude mice are born with functional but faulty hair growth follicles. Hair growth cycles and patterns are evident but the faulty follicles fail to allow the hair to erupt. Homozygous nude mice lack functional T cells and are partially deficient in B cells, thus can be used as an immune deficient mouse model which allow xenograft of human cell lines and tissues.

Application

1. Dermatologic study
2. Endocrine deficiency research
3. Immune and inflammation research
4. athymism research
5. Xenograft and Cancer research

growth curve



Blood routine

Hematology			
Parameter	Units	16W(♂)	16W(♀)
WBC	103 cells/ mm3	2.90±0.51	1.98± 0.91
RBC	106 cells/ mm3	10.03±0.56	9.83± 0.53
HB	g/L	154.55±4.75	158.71± 5.95
HCT	%	55.30±2.14	56.18± 2.67
MCV	fL	55.22±2.55	57.18± 1.85

MCH	Pg	15.45±0.93	16.17±0.54
MCHC	g/L	279.91±8.96	282.76±6.78
RDW	%	16.68±0.79	16.77±1.04
PLT	103 cells/mm3	868.55±101.64	790.24±168.98
MPV	fL	4.32±0.22	4.24±0.45
NE#	103 cells/mm3	1.10±0.23	0.49±0.19
NE%	%	36.17±6.23	25.60±7.61
LY#	103 cells/mm3	1.52±0.35	1.19±0.69
LY%	%	52.73±7.41	58.65±9.20
EO#	103 cells/mm3	0.01±0.01	0.00±0.01
EO%	%	0.26±0.24	0.28±0.18
MO#	103 cells/mm3	0.27±0.06	0.30±0.16
MO%	%	10.80±3.86	15.40±4.48

BA#	103 cells/ mm3	0.00±0.00	0.00± 0.00
BA%	%	0.05±0.06	0.07±0.13

Blood biochemistry

Biochemistry			
Parameter	Units	16W(♂)	16W(♀)
ALT	IU/L	38.22±18.39	34.39±12.17
AST	IU/L	77.39±41.29	88.57±43.22
AKP	IU/L	90.57±15.23	102.48±24.95
TP	g/L	51.62±3.02	52.09±2.33
ALB	g/L	33.16±2.34	36.84±2.19
TBIL	μmol/L	1.14±0.40	0.9±0.21
GLU	mmol/L	9.49±1.29	7.28±1.55
BUN	mmol/L	7.47±1.64	6.96±1.48
CREA	μmol/L	13.51±2.59	13.29±1.76
Ca	mmol/L	2.6±0.15	2.6±0.09
P	mmol/L	2.34±0.69	2.75±0.54
Fe	μmol/L	42.57±5.25	35.98±8.05
CHOl	mmol/L	3.26±0.27	2.8±0.32
TG	mmol/L	1.01±0.56	0.5±0.16
HDL-C	mmol/L	2.48±0.23	2.01±0.20

LDL-C	mmol/L	/	/

Flow cytometr

Flow cytometr					
Parameter	Units	spleen		blood	
		9W/♂	9W/♀	9W/♂	9W/♀
B cells	% of leukocytes	79.55	74.43	48.55	30.30
NK cells		7.75	11.12	7.23	19.13
T cells		0.35	0.54	0.38	0.84
immature B	% of B cells	51.23	45.30	41.28	23.37
mature B		28.38	29.30	7.58	7.17

References

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2. Lili Cheng, Jianfei Guo, Liguang Sun, et al., Postnatal Tissue-specific Disruption of Transcription Factor FoxN1 Triggers Acute Thymic Atrophy. THE JOURNAL OF BIOLOGICAL CHEMISTRY 2010, 285: 5836–5847.
3. Darnell DK, Zhang LS, Hannenhalli S, et al., Developmental expression of chicken FOXN1 and putative target genes during feather development. The International Journal of Developmental Biology 2014, 58(1): 57–64.
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