

M-SDR

Gene Summary

Model Description

Exon 3 of Rag2 gene was deleted to generate Rag2 knockout rat.

Research Application: immune system

*Literature published using this strain should indicate: M-SDR rats (Cat. NO. NR-KO-190001) were purchased from Shanghai Model Organisms Center, Inc..

Validation Data

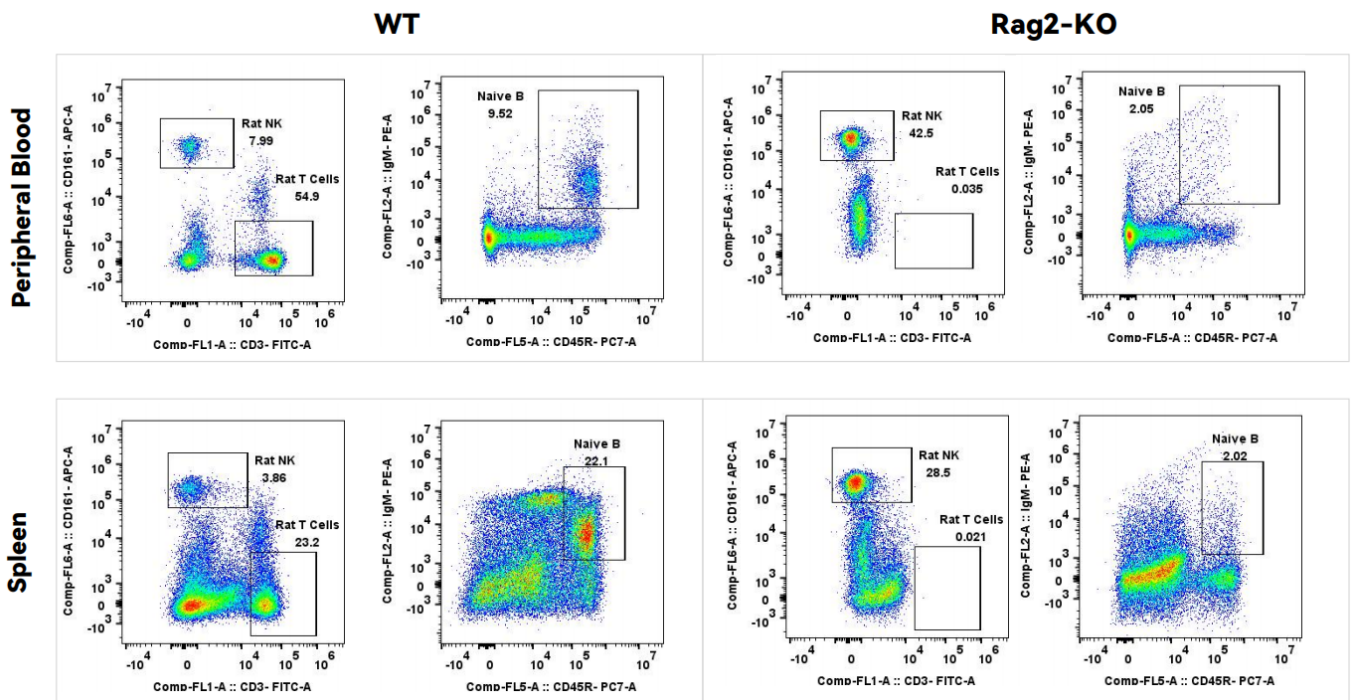


Fig1. Rag2-KO rat immunotypes analysis.

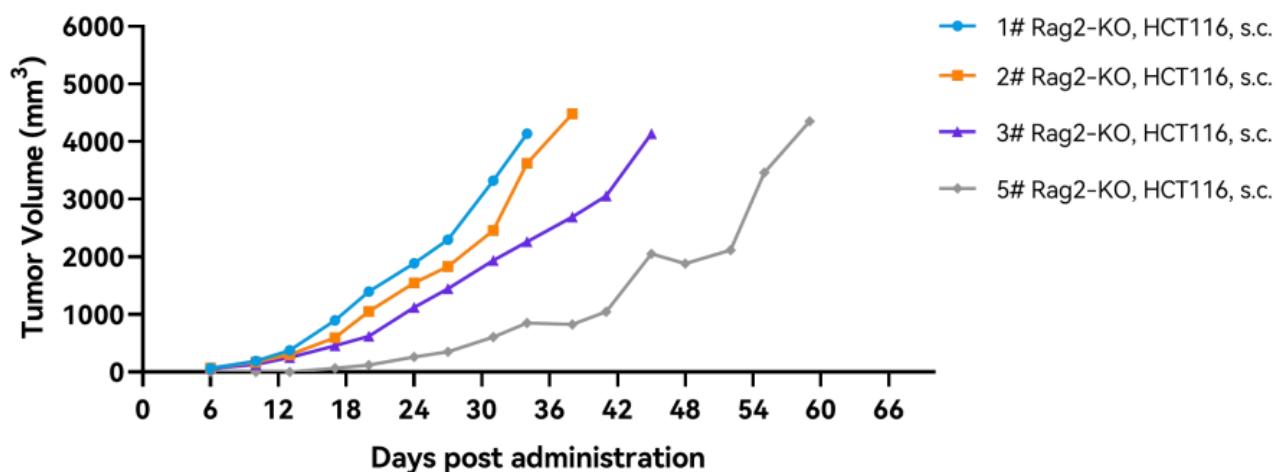


Fig2. The establishment of tumor models in Rag2-KO rats using HCT116 cells.

| Parameter | Units | SD; Male | SD; Female | Rag2-KO(SD); Male | Rag2-KO(SD); Female |
|-----------|--------------------------------|------------------|------------------|-------------------|---------------------|
| | | 7-8 weeks; n=10 | 7-8 weeks; n=10 | 7-8 weeks; n=10 | 7-8 weeks; n=10 |
| WBC | 10 ³ cells/ μ L | 10.68 \pm 0.80 | 10.63 \pm 0.83 | 2.70 \pm 0.21 | 1.93 \pm 0.27 |
| RBC | 10 ⁶ cells/ μ L | 7.32 \pm 0.40 | 6.71 \pm 0.31 | 6.03 \pm 0.29 | 5.10 \pm 0.19 |
| HGB | g/dL | 15.99 \pm 0.79 | 14.40 \pm 0.64 | 13.63 \pm 0.40 | 11.45 \pm 0.44 |
| HCT | % | 46.75 \pm 2.07 | 42.68 \pm 1.85 | 39.85 \pm 1.22 | 33.67 \pm 1.19 |
| MCV | fL | 64.12 \pm 0.69 | 63.73 \pm 0.55 | 66.70 \pm 1.39 | 66.05 \pm 0.48 |
| MCH | pg | 21.89 \pm 0.16 | 21.49 \pm 0.20 | 22.83 \pm 0.52 | 22.44 \pm 0.20 |
| MCHC | g/dL | 34.14 \pm 0.23 | 33.72 \pm 0.15 | 34.20 \pm 0.12 | 33.97 \pm 0.23 |
| PLT | 10 ⁶ cells/ μ L | 0.82 \pm 0.13 | 0.57 \pm 0.13 | 0.96 \pm 0.16 | 0.85 \pm 0.15 |
| RDW-SD | fL | 29.58 \pm 1.29 | 27.96 \pm 0.69 | 47.61 \pm 1.53 | 35.74 \pm 1.10 |
| RDW-CV | % | 13.24 \pm 0.48 | 12.09 \pm 0.38 | 19.54 \pm 0.39 | 14.45 \pm 0.44 |
| PDW | fL | 8.41 \pm 0.17 | 9.23 \pm 0.46 | 8.28 \pm 0.11 | 8.22 \pm 0.13 |
| MPV | fL | 8.05 \pm 0.18 | 8.41 \pm 0.17 | 8.11 \pm 0.13 | 8.18 \pm 0.09 |
| P-LCR | % | 11.15 \pm 1.51 | 14.02 \pm 1.51 | 11.08 \pm 1.15 | 11.39 \pm 0.77 |
| PCT | % | 0.56 \pm 0.08 | 0.44 \pm 0.09 | 0.71 \pm 0.11 | 0.62 \pm 0.10 |
| NEUT# | 10 ³ cells/ μ L | 1.21 \pm 0.32 | 0.82 \pm 0.09 | 0.78 \pm 0.07 | 0.70 \pm 0.15 |
| LYMPH# | 10 ³ cells/ μ L | 8.78 \pm 0.83 | 9.14 \pm 0.79 | 1.17 \pm 0.13 | 0.78 \pm 0.11 |
| MONO# | 10 ³ cells/ μ L | 0.61 \pm 0.09 | 0.59 \pm 0.07 | 0.68 \pm 0.06 | 0.35 \pm 0.03 |
| EO# | 10 ³ cells/ μ L | 0.07 \pm 0.01 | 0.07 \pm 0.02 | 0.06 \pm 0.01 | 0.09 \pm 0.01 |
| BASO# | 10 ³ cells/ μ L | 0.02 \pm 0.00 | 0.02 \pm 0.00 | 0.01 \pm 0.00 | 0.01 \pm 0.00 |
| NEUT% | % | 12.01 \pm 3.59 | 8.56 \pm 1.71 | 29.73 \pm 2.90 | 34.72 \pm 2.52 |
| LYMPH% | % | 81.67 \pm 3.58 | 85.29 \pm 1.74 | 42.79 \pm 3.23 | 40.18 \pm 1.55 |
| MONO% | % | 5.50 \pm 0.44 | 5.41 \pm 0.54 | 24.93 \pm 0.91 | 19.65 \pm 1.37 |
| EO%(%) | % | 0.67 \pm 0.14 | 0.60 \pm 0.11 | 2.32 \pm 0.33 | 5.26 \pm 0.54 |
| BASO% | % | 0.15 \pm 0.02 | 0.14 \pm 0.02 | 0.23 \pm 0.07 | 0.19 \pm 0.12 |
| RET# | 10 ⁶ cells/ μ L | 0.46 \pm 0.06 | 0.41 \pm 0.04 | 0.60 \pm 0.03 | 0.46 \pm 0.03 |
| RET% | % | 6.78 \pm 1.10 | 6.31 \pm 0.57 | 10.06 \pm 0.39 | 9.10 \pm 0.38 |
| LFR(%) | % | 53.65 \pm 7.53 | 45.62 \pm 5.63 | 33.85 \pm 0.94 | 38.23 \pm 1.97 |
| MFR(%) | % | 11.88 \pm 1.24 | 14.12 \pm 0.64 | 14.45 \pm 0.44 | 14.35 \pm 0.73 |
| HFR(%) | % | 34.47 \pm 6.69 | 40.26 \pm 5.16 | 51.70 \pm 1.29 | 47.42 \pm 2.27 |
| IRF(%) | % | 46.35 \pm 7.53 | 54.38 \pm 5.63 | 66.15 \pm 0.94 | 61.77 \pm 1.97 |

Fig3. Blood Routine Tests in Rag2-KO(SD) rats.

| Parameter | Units | SD; Male | SD; Female | Rag2-KO(SD); Male | Rag2-KO(SD); Female |
|-----------|--------|-----------------|-----------------|-------------------|---------------------|
| | | 7-8 weeks; n=10 | 7-8 weeks; n=10 | 7-8 weeks; n=10 | 7-8 weeks; n=10 |
| ALB | g/L | 28.10±0.82 | 30.40±0.45 | 29.70±0.50 | 32.10±0.78 |
| ALP | U/L | 1470.00±105.85 | 961.60±62.60 | 1040.70±38.49 | 559.80±67.48 |
| ALT | U/L | 46.50±2.95 | 43.50±3.18 | 45.50±2.11 | 50.70±2.47 |
| AST | U/L | 142.70±7.26 | 139.70±7.71 | 150.10±9.91 | 217.80±15.82 |
| GGT | U/L | 0.16±0.08 | 0.39±0.11 | 0.42±0.30 | 0.71±0.45 |
| T-BIL | μmol/L | 1.22±0.28 | 0.75±0.09 | 1.75±0.19 | 0.60±0.10 |
| TP | g/L | 59.30±1.40 | 62.90±1.22 | 59.80±1.08 | 60.90±1.27 |
| CRE | μmol/L | 21.34±0.72 | 20.18±0.76 | 21.78±0.61 | 27.92±0.88 |
| BUN | mmol/L | 6.28±0.36 | 5.76±0.25 | 6.04±0.17 | 5.25±0.20 |
| TCHO | mmol/L | 1.93±0.05 | 2.00±0.09 | 2.39±0.06 | 1.88±0.08 |
| TG | mmol/L | 1.73±0.28 | 0.69±0.10 | 1.36±0.21 | 0.39±0.04 |
| HDL | mmol/L | 1.14±0.05 | 1.39±0.06 | 1.60±0.06 | 1.31±0.06 |
| LDL | mmol/L | 0.67±0.09 | 0.63±0.04 | 0.62±0.02 | 1.27±0.05 |
| NEFA | mmol/L | 0.72±0.15 | 0.72±0.11 | 0.95±0.07 | 0.63±0.09 |
| Ca | mmol/L | 3.14±0.04 | 3.07±0.03 | 3.18±0.03 | 2.64±0.30 |
| CL | mmol/L | 96.29±1.12 | 96.83±0.84 | 96.25±0.43 | 64.61±2.34 |
| IP | mmol/L | 3.28±0.17 | 2.82±0.14 | 3.05±0.14 | 3.13±0.14 |
| K | mmol/L | 7.07±0.27 | 6.09±0.20 | 6.45±0.13 | 8.32±2.17 |
| Na | mmol/L | 144.01±4.40 | 159.32±2.79 | 159.67±3.66 | 122.12±4.25 |
| CK | U/L | 1880.30±182.21 | 1317.70±159.22 | 1236.00±179.68 | 2336.30±302.34 |
| GLU | mmol/L | 8.73±0.69 | 6.67±0.20 | 6.83±0.22 | 8.01±0.35 |

Fig4. Blood biochemistry in Rag2-KO(SD) rats.