

Supplementary Information

MicroRNA and transcriptomic profiling showed miRNA-dependent impairment of systemic regulation and synthesis of biomolecules in *Rag2* KO mice

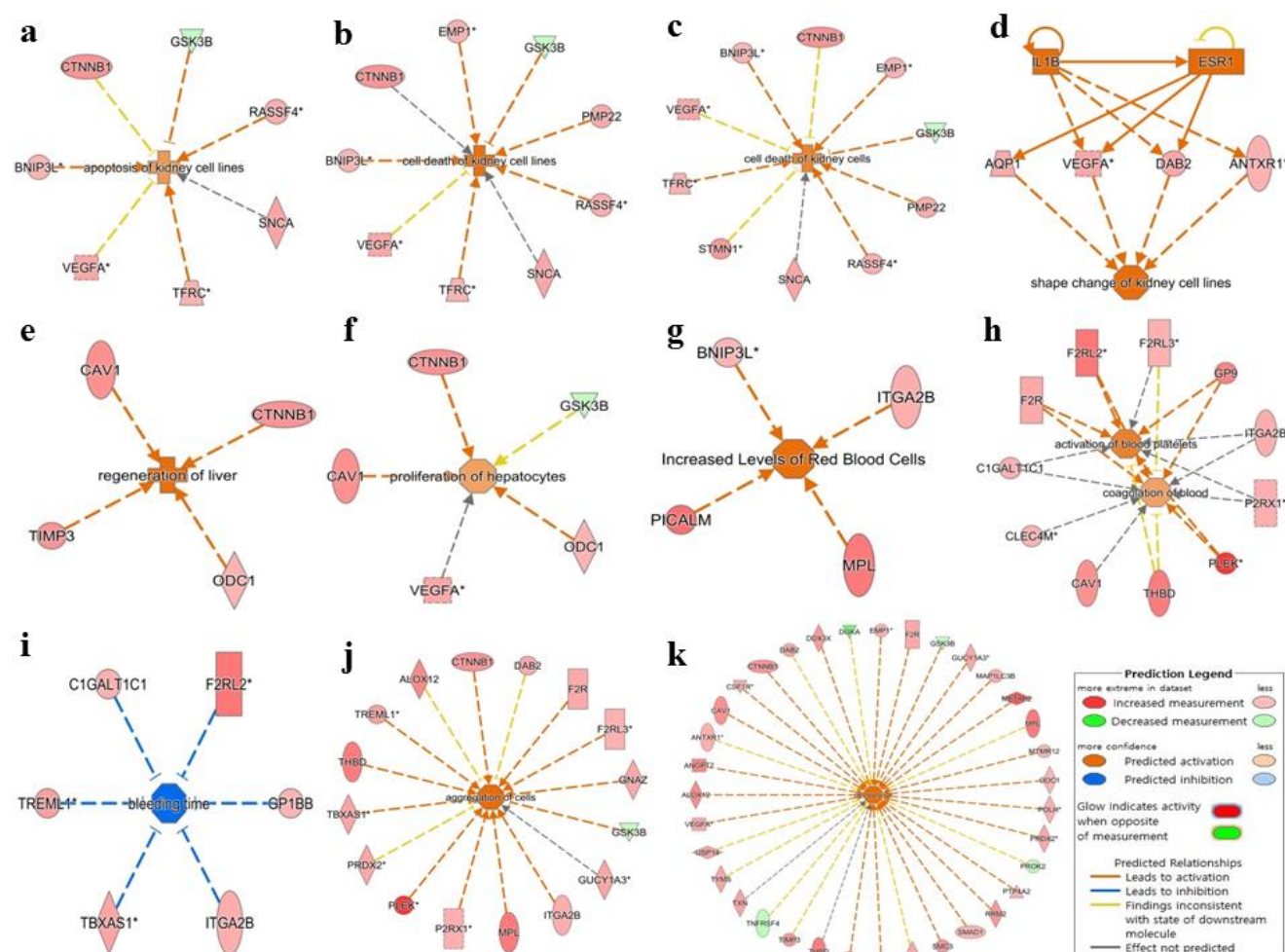
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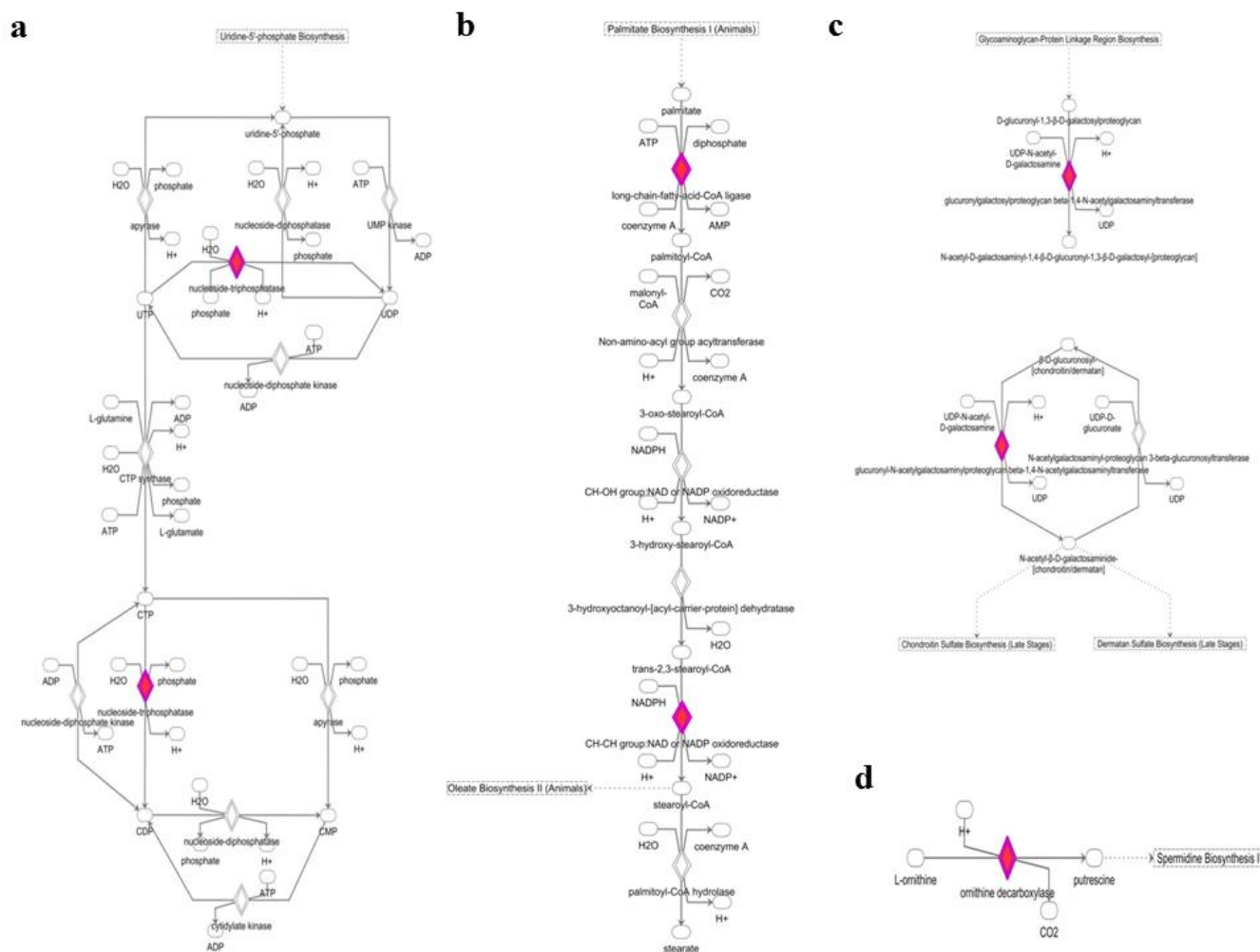
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Supplementary Figure S1. Heatmap showing the alteration status in the physiological and systemic processes of *Rag2* KO mice. (a) Heatmap showing the alteration status of all biological and physiological processes in *Rag2* KO mice. (b) Heatmap showing the alteration status in the 'Organismal Injury and Abnormalities' in *Rag2* KO mice. Sized by: z-score, Colored by: $-\log(p\text{-value})$, Highlight: z-score ≤ -2 .



Supplementary Figure S2. Alteration status in different systemic regulations in *Rag2* KO mice. (a–c) Upregulated signaling for apoptosis of kidney cells. (d) Signaling for deformities in kidney cells upregulated. (e–f) Increased regeneration and proliferation of hepatic cell increases. (g–h) Signaling related to the formation of blood cells is activated. (i) Bleeding time in *Rag2* KO mice is potentially inhibited. (j) Cell aggregation signaling is upregulated. (k) Cell survival signaling is upregulated.



Supplementary Figure S3. Alteration in signaling related to the metabolism and conversion of biomolecules in *Rag2* KO mice (**a**) uridine 5'-phosphate; (**b**) palmitate; (**c**) glycosaminoglycan-protein; (**d**) L-ornithine to putrescine conversion.