Supplementary Data

SUPPLEMENTARY TABLE S1. ETIOLOGICAL CLASSIFICATION OF ANEMIA AND CHARACTERIZED MICE MODELS, INCLUDING REFERENCES

Disorder of erythropoiesis	Iron deficiency	Diet (36) Genetical: Trf(hpx/hpx) gene mutation (hypotransferrinemia) (55) Inherited defect of intestinal iron absorption (1) TMPRSS6 gene mutation (encoding matriptase-2) (11) Disruption of potassium channel regulatory subunit KCNE2 in enterocytes (47)
	Lack of vitamin B12	Diet (15) Pernicious anemia (lack of intrinsic factor, gastric disease) (64) Transcobalamin receptor KO (27)
	Lack of folic acid	Diet (6) Drug-induced lack of folic acid (5-fluorouracil) (20) Virus-induced deficiency of folic acid (26)
	Lack of erythropoietin	EPO KO (60) EPO deficiency (61) Renal insufficiency (39)
	Aplasia, bone marrow disorder	Radiation (48) Myelodysplastic syndrome disease (63) Viral infection (EBV, CMV) (48) Drugs (phenylhydrazin) (53)
Increased hemolysis or RBC depletion	Hemoglobinopathies	SCD (5) Thalassemia (β-thalassemia intermedia and major) (21, 50) Hb-deficient mice (62)
	Defects of cytoskeletal proteins	Spectrin gene mutations (7) Ankyrin-deficient mice (42) Erythroid cell-specific band 3 KO mice (52)
	Defect of metabolic enzymes	Glucose-6-phosphate dehydrogenase deficiency (44) Pyruvate kinase deficiency (glycolysis defect) (35) Hexokinase 1 deficiency (41)
	Disorder of redox regulation	SOD1 deficiency (17) SOD2 deficiency (13) Prx1 and Prx2 KO (30, 38) Nrf2 Trsp double KO (22) Glutathione peroxidase 4 KO (50)
	Antibody-related RBC membrane damage	Transfusion-associated Blood groups allocated antibody production (ABO, Rh factor) (16, 49, 54) Autoimmune: anti-RBC autoantibody transgenic mice (3) Drug-induced [L-dopa (51), phenylhydrazine (18)] Injection of antimurine RBC antibodies (TER-119, 34-3C, 4C8) (19) Warm antibody related (NZB/BL mice) (34)
	Chronic inflammation	Infectious Tuberculosis (*Mycobacterium tuberculosis*) (43) Brucellose (*Brucella abortus*) (23) Malaria (*Plasmodium falciparum*) (28) Trypanosomiasis (*Trypanosoma brucei*) (43) Bacterial infections (*Staphylococcus aureus*, *Staphylococcus pyogenes*, *H. pylori*, *etc.*) (8, 58) Pseudoinfectious Complete Freund's adjuvant injection (dried and inactivated mycobacteria, they cause an acute increase in hepcidin) (43) Lipopolysaccharide injection (components of the outer cell membrane of gram-negative bacteria, which elicit a potent inflammatory response and increase hepcidin) (29) Noninfectious Turpentine injection (induces an acute increase of hepcidin) (43) Collagen injection (induces arthritis) (43) Oral feeding of dextran sulfate sodium (induces colitis) (43) Genetical IL-6-hepcidin-ferroportin axis (37)

(*continued*)

SUPPLEMENTARY TABLE S1. (CONTINUED)

	Disorders of cytokine production	Transgenic expression of the IL-23 subunit p19 (4)
	Chronic diseases/ cancer	Acute and chronic colitis (9) Systemic lupus erythematosus (14) Lung cancer, melanoma, ovarian cancer (24)
	Drug side effects/ poisoning	Anti-immune drugs (48) Chemotherapeutical drugs (cisplatin, 5-fluorouracil, cyclophosphamide) (2, 20) Antiretroviral medication (zidovudine) (10)
	Genetic factors	Paroxysmal nocturnal hemoglobinuria (45) CD22 deficiency (defective allele of glucose phosphate isomerase, Gpi1c) (59)
	Other nonspecific factors	CD47-deficient nonobese diabetic mice (40) Gene disruption of dematin (32) Extreme endurance exercise (31) Genetical disorders (e.g., Fanconi anemia) kd/kd mice (knockdown mutation of Hif-2α) (56) Ferrochelatase deficiency (mimics erythropoietic protoporphyria) (33) Depurination of the 28S rRNA by ricin (induces hemolytic uremic syndrome) (25)
Loss of RBCs	Blood loss	Repetitive phlebotomy (12, 57)
Disorder of RBC distribution	Hypersplenism	Adoptive transfer of syngeneic spleen cells (46)

EPO, erythropoietin; KO, knockout; Nrf2, nuclear factor E2-related factor 2; RBC, red blood cell; SCD, sickle cell disease.

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