**Table S2**

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| **Category** | **Function Annotation** | **DEG** |
| Cell death | Cell death (38, ****), cell death of normal cells (22, ****), tumor cell lines (21, ****), bone marrow cells (6, ⇔); apoptosis (36, ****), apoptosis of normal cells (22, ****), tumor cell lines (17, ****), leukocytes (13, ⇔), T lymphocytes (7, ****), connective tissue cells (6, ****); survival of cells (18, ****), tumor cell lines (9, ⇔). | 41 **** |
| Cellular Movement | | Migration of cells (17, ⇔), eukaryotic cells (15, ****), leukocytes (8, ****), phagocytes (5, ****), bone marrow cells (4, ****); cell movement of normal cells (13, ****), blood cells (10, ****), leukocytes (9, ****), phagocytes (6, ****); chemotaxis of leukocytes (6, ****); homing of bone marrow cells (4, ****). | 22 **** |
| Hematologycal System Development & Function | | Proliferation of leukocytes (12, ****), lymphocytes (11, ****), T lymphocytes (8, ****); differentiation of blood cells (10, ****), leukocytes (9, ****); quantity of leukocytes (10, ****), mononuclear leukocytes (8, ****), lymphocytes (7, ⇔). | 27 **** |
| Cellular Development | | Differentiation of cells (23, ****), blood cells (10, ****), bone marrow cells (7, ****), osteocytes (7, ****), osteoclasts (6, ****), embryonic stem cells (4, ⇔); development of cells (17, ****), endothelial cells (4, ****); developmental process of blood cells (14, ⇔), bone marrow cells (10, ****), stem cells (5, ⇔); morphogenesis of cells (10, ****). | 31 **** |
| Cellular Growth & Proliferation | | Proliferation of cells (28, ****); growth of cells (27, ****), normal cells (22, ****), tumor cell lines (13, ****), blood cells (7, ⇔); colony formation of eukaryotic cells (8, ****), osteoclasts (3, ****). | 36 **** |
| Cell Cycle | | Cell division process of cells (16, ****); cell stage of cells (14, ****); arrest in cells division process of eukaryotic cells (9, ****); mitosis (7, ****); entry into cell division process of cells (6, ****); remodeling of chromatin (5, ****); senescence of eukaryotic cells (5, ****); delay in cell division process of cell lines (4, ****); arrest in cells division process of cancer cells (3, ****). | 18 **** |
| Connective Tissue Development & Function | Differentiation of osteocytes (7, ****), osteoclasts (6, ****); growth of fibroblast cell lines (6, ****); quantity of osteoclasts (5, ****). | 19 **** |
| Tissue Morphology | | Quantity of cells (17, ****), leukocytes (10, ****), mononuclear leukocytes (7, ****), connective tissue cells (6, ****), lymphocytes (7, ****). | 18 **** |
| Gene Expression | | Activation of gene (7, ****), NFkB binding site (5, ****), protein binding site (4, ****); binding of DNA (7, ⇔), NFkB binding site (5, ****). | 16 **** |
| RNA Damage & Repair | | Stabilization of mRNA (4, ****). | 4 **** |
| RNA Post Transcriptional Modification | | Stabilization of mRNA (4, ****). | 4 **** |
| Antigen Presentation | | Inflammatory response (9, ****); inflammation (6, ⇔); accumulation of macrophages (4, ****), peripheral blood monocytes (2, ****); binding of monocytes (3, ****). | 13 **** |
| Immune Cell Trafficking | | Cell movement of leukocytes (9, ****), granulocytes (6, ****), phagocytes (6, ****); migration of leukocytes (8, ****), bone marrow cells (4, ****); adhesion of leukocytes (7, ****), mononuclear leukocytes (4, ****); accumulation of leukocytes (6, ****); chemotaxis of leukocytes (6, ****); homing of bone marrow cells (4, ****). | 13 **** |
| Tissue Development | | Adhesion of eukaryotic cells (10, ****), endothelial cells (4, ****); accumulation of cells (7, ****), leukocytes (6, ****), granulocytes (3, ****), mononuclear leukocytes (3, ****), macrophages (2, ****). | 16 **** |
| Molecular Transport | | Quantity of reactive oxygen species (4, ****); release of protein (4, ****); clearance of D-glucose (2, ****). | 8 **** |
| Protein Synthesis | | Release of protein (4, ****). | 4 **** |
| Cardiovascular System Development & Function | | Development of blood vessel (10, ****); adhesion of endothelial cells (4, ****); angiogenesis of blood vessel (4, ****). | 13 **** |
| Cell Morphology | | Morphogenesis of cells (10, ****); transformation of eukaryotic cells (9, ⇔); branching of eukaryotic cells (3, ****); permeabilization of mitochondria (3, ****). | 26 **** |
| Cell-To-Cell Signaling & Interaction | | Adhesion of eukaryotic cells (10, ****), leukocytes (7, ****), endothelial cells (4, ****), mononuclear leukocytes (4, ****); recruitment of normal cells (5, ****), granulocytes (4, ****); stimulation of eukaryotic cells (5, ****); activation of granulocytes (3, ****). | 23 **** |
| Tumor Morphology | | Formation of tumor (6, ****), malignant tumor (4, ****); development of tumor (5, ****). | 12 **** |
| Hematopoiesis | | Differentiation of leukocytes (9, ****); bone marrow cells (7, ⇔); growth of hematopoietic progenitor cells (4, ****); homing of bone marrow cells (4, ****); migration of bone marrow cells (4, ****). | 18 **** |
| Cellular Assembly & Organization | | Remodeling of chromatin (5, ****); quantity of focal adhesion (3, ****). | 12 ⇔ |
| DNA Replication, Recombination & Repair | | Synthesis of DNA (9, ****); metabolism of DNA (8, ****); damage of DNA (4, ⇔); breakage of chromosomes (2, ⇔). | 18 **** |
| Post-Transcriptional Modification | | Association of protein (2, ⇔); hydroxylation of protein fragment (1, ****). | 3 ⇔ |
| Carbohydrate Metabolism | | Removal of D-glucose (3, ****); clearance of D-glucose (2, ****); hydrolysis of phosphatidylcholine (2, ****). | 7 **** |
| Small Molecule Biochemistry | | Hydrolysis of lipid (5, ****), triacylglycerol (2, ****; synthesis of nitric oxide (4, ****); generation of prostaglandin (3, ****). | 18 ⇔ |
| Cell Signaling | | Degeneration of cells (4, ⇔); breakage of chromatin (1, ****). | 7 ⇔ |
| Nucleic Acid Metabolism | | Deamination of dCMP (1, ****); metabolism of UDP-N- acetylglucosamine (2, ⇔). | 3 ⇔ |
| Lipid Metabolism | | Hydrolysis of lipids (5, ****), phosphatidylcholine (2, ****), triacylglycerol (2, ****; generation of prostaglandin (3, ****), prostaglandin D2 (2, ****); formation of eicosanoid (2, ****). | 8 ⇔ |
| Embryonic Development | | Cell death of embryonic cell lines (5, ****); differentiation of embryonic stem cells (4, ****); colony formation of embryonic cell lines (2, ****); development of embryonic cell lines (2, ****); quantity of embryonic cells (2, ****); transformation of embryonic cell lines (2, ⇔). | 14 **** |
| Endocrine System Development & Function | | Proliferation of endocrine cell lines (3, ****); growth of endocrine cell lines (2, ⇔). | 4 **** |
| Free Radical Scavenging | | Quantity of reactive oxygen species (4, ****). | 4 **** |
| Cellular Function & Maintenance | | Contact growth inhibition of fibroblasts (2, ****); respiratory burst of phagocytes (2, ⇔). | 7 **** |
| Organ Development | | Angiogenesis of skin (2, ⇔); development of ear (2, ****); proliferation of epidermis (2, ⇔). | 5 ⇔ |
| Cellular Compromise | | Breakage of chromosomes (2, ****). | 7 **** |
| Amino Acid Metabolism | | Removal of amino acids (2, ⇔). | 2 ⇔ |
| Cell-Mediated Immune Response | | Inflammatory response (9, ****); proliferation of T lymphocytes (8, ****); inflammation (6, ⇔). | 18 **** |
| Humoral Immune Response | | Inflammatory response (9, ****); inflammation (6, ⇔). | 11 **** |
| Drug Metabolism | | Induction of progesterone (1, ****). | 1 **** |
| Vitamine and Mineral Metabolism | | Clearance of vitamin A (1, ****). | 1 **** |