

Supplement Table S1. ICRS scoring system used for macroscopic evaluation in transplantation groups A and B at 4, 8, and 12 weeks. ICRS, International Cartilage Repair Society.

Categories for transplantation group A	Categories for transplantation group B
<p>Degree of defect repair</p> <p>4: In level with surrounding cartilage</p> <p>3: 75% repair of defect depth</p> <p>2: 50% repair of defect depth</p> <p>2: 25% repair of defect depth</p> <p>0: No repair of defect depth</p>	<p>Degree of defect repair</p> <p>4: 100% survival of initially grafted surface</p> <p>3: 75% survival of initially grafted surface</p> <p>2: 50% survival of initially grafted surface</p> <p>1: 25% survival of initially grafted surface</p> <p>0: 0% (plugs are lost or broken)</p>
<p>Integration to border zone</p> <p>4: Complete integration with surrounding cartilage</p> <p>3: Demarcating border < 1 mm</p> <p>2: $\frac{3}{4}$ of graft integrated, $\frac{1}{4}$ with a notable border > 1 mm width</p> <p>1: $\frac{1}{2}$ of graft integrated with surrounding cartilage, $\frac{1}{2}$ with a notable border > 1 mm</p> <p>0: From no contact to $\frac{1}{4}$ of graft integrated with surrounding cartilage</p> <p>Macroscopic appearance</p> <p>4: Intact smooth surface</p> <p>3: Fibrillated surface</p> <p>2: Small, scattered fissures or cracks</p> <p>1: Several small or few large fissures</p> <p>0: Total degeneration of grafted area</p> <p>Overall repair assessment</p> <p>12: Grade I: normal</p> <p>8-11: Grade II: nearly normal</p> <p>4-7: Grade III: abnormal</p> <p>1-3: Grade IV: severely abnormal</p>	

Supplement Table S2. Eleven items in the modified ICRS scoring system used for microscopic evaluation in transplantation groups A and B at 4, 8, and 12 weeks. ICRS, International Cartilage Repair Society.

Cartilage evaluation (Maximum total 30 points)	Subchondral bone evaluation (Maximum total 10 points)	Inflammation evaluation (Maximum total 5 points)
Tissue morphology 4: mostly hyaline cartilage 3: mostly fibrocartilage 2: mostly non-cartilage	Subchondral bone formation 3: strong 2: slight 1: no formation	5: strong inflammation <ul style="list-style-type: none"> • Abundant infiltration of inflammatory cells including lymphocytes, plasma cells, and

1: exclusively non-cartilage

Matrix staining

- 4: strong
- 3: moderate
- 2: slight
- 1: none

Structural integrity

- 5: normal, similar to healthy mature cartilage
- 4: beginning of columnar organization of chondrocytes
- 3: no organization of chondrocytes
- 2: cysts or disruptions
- 1: severe disintegration

Chondrocyte clustering in implant

- 3: no clusters
- 2: <25% of the cells clustered
- 1: 25-100% of the cells clustered

Histologic appraisal defect filling

- 5: 91-110%
- 4: 76-90%
- 3: 51-75%
- 2: 26-50%
- 1: <25%

Histologic appraisal of surface architecture

- 4: normal
- 3: slight fibrillation or irregularity
- 2: moderate fibrillation or irregularity
- 1: severe fibrillation or disruption

Intactness of the calcified cartilage layer, formation of tidemark

- 5: complete intactness of the calcified cartilage layer
- 4: 76-90% of the calcified cartilage layer intact
- 3: 50-75% of the calcified cartilage layer intact
- 2: 25-49% of the calcified cartilage layer intact
- 1: <25% of the calcified cartilage layer intact

Lateral integration of implanted material

- 3: bonded at both sides
- 2: bonded at one end/partially both ends
- 1: not bonded

Basal integration of implanted material

- 4: 91-100%
- 3: 70-90%
- 2: 50-70%
- 1: <50%

macrophages)

• Abundant formation of fibroplasia

3: slight inflammation

• Mild to moderate infiltration of inflammatory cells including lymphocytes, plasma cells, and macrophages)

• Mild to moderate formation of fibroplasia

1: no inflammation

Supplement Table S3. List of the proteins concerning cellular response to cytokine stimulus [GO:0071345], cytokine mediated signaling pathway [GO:0019221], and response to cytokine [GO:0034097] found in the chondrocyte sheet, chondrocyte sheet-cancellous bone, and cancellous bone. Red boxes highlight the LAMA-5 and FN in the tissues, which were classified not only in the protein binding and ECM-receptor interaction, but also in the cytokine-mediated signaling pathway. LAMA-5, laminin subunit alpha-5; FN, fibronectin.

No.	Accession number	Protein names	Cellular response to cytokine stimulus (GO:0071345), cytokine-mediated signaling pathway (GO:0019221), and response to cytokine (GO:0034097)	Q-value	Log 2 expression		
					Chondrocyte sheet	Chondrocyte sheet-cancellous bone tissue	Cancellous bone
1	Q9Y4K3	TNF receptor-associated factor 6	GO:0071345	0.9929	19.8489	12.6466	0
2	O15230	Laminin subunit alpha-5	GO:0019221	0.9942	16.5343	12.4866	0
3	Q14114	Low-density lipoprotein receptor-related protein 8	GO:0019221	0.9904	15.2063	14.0799	0
4	P02751	Fibronectin	GO:0019221	0.9939	14.1051	14.0951	0
5	P42336	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit alpha isoform	GO:0019221	0.9880	13.1915	15.7668	0
6	Q8WU90	Zinc finger CCCH domain-containing protein 15	GO:0019221	0.9881	12.9350	12.4067	0
7	P42680	Tyrosine-protein kinase Tec	GO:0019221	0.9906	12.2026	16.4694	0
8	P37275	Zinc finger E-box-binding homeobox 1	GO:0019221	0.9946	0	14.7078	0
9	Q8TD23	Zinc finger protein 675	GO:0019221	0.9852	0	13.7291	0
10	P35398	Nuclear receptor ROR-alpha	GO:0019221	0.9969	0	11.9960	0
11	P01730	T-cell surface glycoprotein CD4	GO:0019221	0.9902	0	11.5651	0
12	P52333	Tyrosine-protein kinase JAK3	GO:0019221	0.9953	0	0	17.8665
13	P35625	Metalloproteinase inhibitor 3	GO:0034097	0.9883	16.4403	0	0
14	P23497	Nuclear autoantigen Sp-100	GO:0034097	0.9888	14.3493	0	12.6722
15	P52945	Pancreas/duodenum homeobox protein 1	GO:0034097	0.9825	13.6451	14.4991	0
16	P16035	Metalloproteinase inhibitor 2	GO:0034097	0.9959	10.6711	0	0
17	Q8N9M5	Transmembrane protein 102	GO:0034097	1.0178	0	13.9825	0

Supplement Table S4. List of proteins concerning cellular response to cytokine stimulus [GO:0071345], cytokine mediated signaling pathway [GO:0019221], and response to cytokine [GO:0034097] found in the culture media of chondrocyte sheet, chondrocyte sheet-cancellous bone, and cancellous bone. The LAMA-5 and FN were found in the culture media of the chondrocyte sheets and chondrocyte sheet-cancellous bone tissues (red boxes). LAMA-5, laminin subunit alpha-5; FN, fibronectin.

No.	Accession number	Protein names	Cellular response to cytokine stimulus (GO:0071345), cytokine-mediated signaling pathway (GO:0019221), and response to cytokine (GO:0034097)	Q-value	Log 2 expression		
					DMEM Chondrocyte sheet	DMEM Chondrocyte sheet-cancellous bone tissue	DMEM Cancellous bone
1	Q13023	A-kinase anchor protein 6	GO:0071345	0.9918	12.9604	16.2673	0
2	P08473	Neprilysin	GO:0071345	0.9935	0	12.0999	0
3	Q6IA17	Single Ig IL-1-related receptor	GO:0071345	1.0190	0	11.1180	0
4	O00165	HCLS1-associated protein X-1	GO:0071345	0.9974	13.8992	0	14.6596
5	Q12923	Tyrosine-protein phosphatase non-receptor type 13	GO:0071345	0.9825	13.6185	0	16.7059
6	P17706	Tyrosine-protein phosphatase non-receptor type 2	GO:0071345	1.0034	0	0	16.0414
7	P13612	Integrin alpha-4	GO:0071345	0.9826	0	0	16.0504
8	P29350	Tyrosine-protein phosphatase non-receptor type 6	GO:0071345 and GO:0019221	0.9962	0	12.0234	0
9	Q9HB29	Interleukin-1 receptor-like 2	GO:0071345 and GO:0019221	1.0221	0	16.8606	0
10	P40763	Signal transducer and activator of transcription 3	GO:0071345 and GO:0019221	1.0441	0	0	12.0136
11	O15230	Laminin subunit alpha-5	GO:0019221	0.9821	17.5407	18.859	17.5782
12	P05556	Integrin beta-1	GO:0019221	0.9817	17.8410	17.8717	17.1544
13	P08631	Tyrosine-protein kinase HCK	GO:0019221	1.0128	17.6464	17.5099	13.6359
14	Q14114	Low-density lipoprotein receptor-related protein 8	GO:0019221	0.9818	15.4949	17.2404	19.0126
15	Q14627	Interleukin-13 receptor subunit alpha-2	GO:0019221	1.0042	0	17.1431	16.4826
16	P21453	Sphingosine 1-phosphate receptor 1	GO:0019221	0.9907	0	17.0882	0
17	Q14765	Signal transducer and activator of transcription 4	GO:0019221	0.9645	0	15.7638	0
18	P04083	Annexin A1	GO:0019221	1.0000	0	15.1925	0
19	P05107	Integrin beta-2	GO:0019221	0.9835	0	15.1590	0
20	Q07889	Son of sevenless homolog 1	GO:0019221	1.0030	13.9824	15.0061	0
21	P02751	Fibronectin	GO:0019221	0.9855	13.3167	14.7549	0
22	O75159	Suppressor of cytokine signaling 5	GO:0019221	0.9963	0	14.3100	0
23	Q5VWK5	Interleukin-23 receptor	GO:0019221	1.0400	13.1289	13.8837	0
24	P37275	Zinc finger E-box-binding homeobox 1	GO:0019221	1.0019	11.8304	12.5457	0
25	Q92835	Phosphatidylinositol 3,4,5-trisphosphate 5-phosphatase 1	GO:0019221	1.0040	13.6969	12.0852	12.9100
26	Q16552	Interleukin-17A	GO:0019221	1.0244	17.1065	0	0
27	O60674	Tyrosine-protein kinase JAK2	GO:0019221	0.9852	16.8789	0	0
28	Q9HC73	Cytokine receptor-like factor 2	GO:0019221	0.9933	15.6275	0	0
29	P23458	Tyrosine-protein kinase JAK1	GO:0019221	1.0402	15.4628	0	0
30	P42680	Tyrosine-protein kinase Tec	GO:0019221	1.0276	14.6529	0	0

No.	Accession number	Protein names	Cellular response to cytokine stimulus (GO:0071345), cytokine-mediated signaling pathway (GO:0019221), and response to cytokine (GO:0034097)	Q-value	Log 2 expression		
					DMEM Chondrocyte sheet	DMEM Chondrocyte sheet-cancellous bone tissue	DMEM Cancellous bone
31	P23471	Receptor-type tyrosine-protein phosphatase zeta	GO:0019221	0.9859	14.0740	0	14.5680
32	P48551	Interferon alpha/beta receptor 2	GO:0019221	0.9844	13.7700	0	0
33	P38484	Interferon gamma receptor 2	GO:0019221	1.0011	11.3369	0	0
34	P42226	Signal transducer and activator of transcription 6	GO:0019221	1.0441	0	0	11.6486
35	P14625	Endoplasmin	GO:0019221	1.0019	0	0	12.4980
36	Q16658	Fascin	GO:0019221	0.9913	0	0	13.3464
37	O14944	Proepiregulin	GO:0019221	1.0038	0	0	13.9311
38	Q13007	Interleukin-24	GO:0019221	0.9869	0	0	15.1562
39	P01137	Transforming growth factor beta-1 proprotein	GO:0019221	0.9848	0	0	18.4676
40	P32246	C-C chemokine receptor type 1	GO:0019221	0.9846	0	0	18.7254
41	Q16520	Basic leucine zipper transcriptional factor ATF-like	GO:0019221	1.0035	0	14.5143	0
42	Q9Y616	Interleukin-1 receptor-associated kinase 3	GO:0019221	0.9915	12.4758	0	17.8342
43	P42336	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit alpha isoform	GO:0019221	0.9945	13.6034	0	0
44	P25105	Platelet-activating factor receptor	GO:0019221	1.0442	0	0	15.8739
45	P42702	Leukemia inhibitory factor receptor	GO:0019221 and GO:0034097	0.9535	0	0	13.4722
46	Q9Y6Q6	Tumor necrosis factor receptor superfamily member 11A	GO:0034097	0.9871	0	15.3405	0
47	P23497	Nuclear autoantigen Sp-100	GO:0034097	0.9914	0	14.5655	16.3609
48	P30559	Oxytocin receptor	GO:0034097	0.9865	16.8817	0	0

Supplement Table S5. Hematological and biological markers in transplantation groups A and B at 0, 4, 8, and 12 weeks.

Hematological parameters				Biochemical parameters			
0 week	Group A (n = 12)	Group B (n = 12)	<i>p</i> value	0 week	Group A (n = 12)	Group B (n = 12)	<i>p</i> value
WBC (5.2 – 12.5 × 10 ³ /mm ³)	8.21 ± 2.49	7.97 ± 2.07	0.798	BUN (20 - 45 mg/dL)	33.17 ± 4.11	30.33 ± 5.69	0.176
Neutrophil (20 – 75 %)	51.67 ± 8.23	49.83 ± 8.90	0.606	Creatinine (0.50 – 2.50 mg/dL)	1.23 ± 0.27	1.15 ± 0.27	0.469
Lymphocyte (30 – 85 %)	43.17 ± 8.42	44.83 ± 9.01	0.644	Total protein (5.4 – 7.5 g/dL)	6.68 ± 0.43	6.55 ± 0.40	0.442
RBC (5.00 – 8.00 × 10 ⁶ cells/μL)	5.70 ± 0.54	6.01 ± 0.79	0.258	Albumin (2.7 – 5.0 g/dL)	4.15 ± 0.24	3.97 ± 0.17	0.042
Hb (10.0 – 17.0 g/dL)	11.68 ± 0.97	12.28 ± 0.96	0.138	ALT(SGPT) (45 – 80 U/L)	59.83 ± 20.03	57.08 ± 14.20	0.702
MCV (58.0 – 67.0 fl)	63.73 ± 2.31	63.29 ± 2.58	0.669	AST(SGOT) (35 – 130 U/L)	29.92 ± 9.98	24.08 ± 8.04	0.129
MCH (20.0 – 21.3 pg)	20.56 ± 1.20	20.57 ± 1.32	0.987	ALK.phos (12 – 96 U/L)	81.92 ± 41.43	92.17 ± 46.42	0.574
MCHC (29.0 – 37.0 g/dL)	32.35 ± 1.31	32.48 ± 1.43	0.692	CPK (140.0 – 372.0 U/L)	802.63 ± 283.01	886.77 ± 199.78	0.409
Platelets (250 – 650 × 10 ³ /μL)	378.42 ± 134.71	405.25 ± 78.19	0.557	CRP (< 3 mg/L)	0.20 ± 0.03	0.20 ± 0.05	0.840
4 weeks	Group A (n = 12)	Group B (n = 12)	<i>p</i> value	4 weeks	Group A (n = 12)	Group B (n = 12)	<i>p</i> value
WBC (5.20 – 12.50 × 10 ³ /mm ³)	7.68 ± 3.83	7.75 ± 2.88	0.957	BUN (20 - 45 mg/dL)	21.67 ± 5.42	20.58 ± 3.90	0.579
Neutrophil (20 – 75 %)	54.83 ± 9.90	54.58 ± 10.59	0.953	Creatinine (0.50 – 2.50 mg/dL)	1.20 ± 0.30	1.18 ± 0.27	0.871
Lymphocyte (30 – 85 %)	42.00 ± 10.88	40.67 ± 10.80	0.766	Total protein (5.4 – 7.5 g/dL)	6.15 ± 1.04	6.22 ± 0.74	0.859
RBC (5.00 – 8.00 × 10 ⁶ cells/μL)	5.66 ± 1.14	6.69 ± 0.68	0.014	Albumin (2.7 – 5.0 g/dL)	3.51 ± 0.31	3.69 ± 0.24	0.120
Hb (10.0 – 17.0 g/dL)	10.98 ± 2.46	12.86 ± 1.15	0.026	ALT(SGPT) (45 – 80 U/L)	49.92 ± 29.72	45.25 ± 16.27	0.638
MCV (58.0 – 67.0 fl)	60.87 ± 2.01	60.68 ± 2.47	0.837	AST(SGOT) (35 – 130 U/L)	24.58 ± 11.30	25.17 ± 12.52	0.906
MCH (20.0 – 21.3 pg)	19.34 ± 1.51	20.30 ± 3.72	0.418	ALK.phos (12 – 96 U/L)	56.00 ± 24.63	46.50 ± 23.13	0.341
MCHC (29.0 – 37.0 g/dL)	31.76 ± 1.96	30.32 ± 5.04	0.366	CPK (140.0 – 372.0 U/L)	1,688.44 ± 1,958.45	1,395.57 ± 1,457.18	0.682
Platelets (250 – 650 × 10 ³ /μL)	429.83 ± 88.55	525.42 ± 123.12	0.040	CRP (< 3 mg/L)	0.18 ± 0.05	0.18 ± 0.05	0.695
8 weeks	Group A (n = 6)	Group B (n = 6)	<i>p</i> value	8 weeks	Group A (n = 6)	Group B (n = 6)	<i>p</i> value
WBC (5.20 – 12.50 × 10 ³ /mm ³)	7.90 ± 2.16	6.13 ± 2.16	0.817	BUN (20 - 45 mg/dL)	29.50 ± 4.89	27.67 ± 9.09	0.673
Neutrophil (20 – 75%)	51.17 ± 9.83	48.50 ± 11.98	0.682	Creatinine (0.50 – 2.50 mg/dL)	1.17 ± 0.16	1.01 ± 0.23	0.186
Lymphocyte (30 – 85 %)	44.33 ± 10.27	46.00 ± 12.13	0.803	Total protein (5.4 – 7.5 g/dL)	7.67 ± 0.45	6.77 ± 0.59	0.014
RBC (5.00 – 8.00 × 10 ⁶ cells/μL)	6.82 ± 0.35	6.09 ± 0.97	0.112	Albumin (2.7 – 5.0 g/dL)	4.25 ± 0.34	3.82 ± 0.33	0.049
Hb (10.0 – 17.0 g/dL)	13.03 ± 0.58	11.17 ± 1.94	0.047	ALT(SGPT) (45 – 80 U/L)	34.33 ± 11.24	38.17 ± 5.19	0.466
MCV (58.0 – 67.0 fl)	61.60 ± 2.45	60.35 ± 2.04	0.360	AST(SGOT) (35 – 130 U/L)	29.83 ± 16.52	15.50 ± 5.47	0.071
MCH (20.0 – 21.3 pg)	19.15 ± 1.29	18.33 ± 1.11	0.267	ALK.phos (12 – 96 U/L)	66.00 ± 35.94	58.00 ± 29.87	0.684
MCHC (29.0 – 37.0 g/dL)	31.07 ± 1.04	30.37 ± 1.31	0.330	CPK (140.0 – 372.0 U/L)	619.40 ± 192.31	516.03 ± 243.08	0.433
Platelets (250 – 650 × 10 ³ /μL)	372.17 ± 101.60	335.17 ± 136.14	0.605	CRP (< 3 mg/L)	0.22 ± 0.06	0.19 ± 0.06	0.412
12 weeks	Group A (n = 4)	Group B (n = 4)	<i>p</i> value	12 weeks	Group A (n = 4)	Group B (n = 4)	<i>p</i> value
WBC (5.20 – 12.50 × 10 ³ /mm ³)	7.68 ± 2.52	7.18 ± 1.35	0.738	BUN (20 - 45 mg/dL)	27.50 ± 4.51	35.75 ± 6.08	0.072
Neutrophil (20 – 75%)	50.75 ± 11.62	52.25 ± 12.12	0.864	Creatinine (0.50 – 2.50 mg/dL)	1.26 ± 0.04	1.13 ± 0.25	0.327
Lymphocyte (30 – 85 %)	45.75 ± 12.23	43.25 ± 12.63	0.786	Total protein (5.4 – 7.5 g/dL)	7.63 ± 0.37	7.23 ± 0.69	0.348
RBC (5.00 – 8.00 × 10 ⁶ cells/μL)	6.53 ± 1.18	6.70 ± 0.53	0.796	Albumin (2.7 – 5.0 g/dL)	4.28 ± 0.32	4.25 ± 0.24	0.904
Hb (10.0 – 17.0 g/dL)	12.80 ± 1.76	13.08 ± 1.25	0.808	ALT(SGPT) (45 – 80 U/L)	38.00 ± 6.48	34.75 ± 14.55	0.697
MCV (58.0 – 67.0 fl)	62.50 ± 2.40	64.85 ± 3.25	0.289	AST(SGOT) (35 – 130 U/L)	25.50 ± 6.61	20.00 ± 11.58	0.441
MCH (20.0 – 21.3 pg)	19.73 ± 1.07	19.50 ± 0.81	0.748	ALK.phos (12 – 96 U/L)	45.25 ± 21.69	73.00 ± 29.41	0.180
MCHC (29.0 – 37.0 g/dL)	28.28 ± 7.69	30.10 ± 0.34	0.652	CPK (140.0 – 372.0 U/L)	654.80 ± 123.52	732.18 ± 419.32	0.735
Platelets (250 – 650 × 10 ³ /μL)	376.75 ± 107.02	496.50 ± 0.125	0.106	CRP (< 3 mg/L)	0.18 ± 0.05	0.16 ± 0.01	0.440

Supplement Table S6. List of cytokines and receptors found in the chondrocyte sheets, chondrocyte sheet-cancellous bone tissues, and cancellous bones.

No.	Accession number	Protein names	Example of term in biological process	Q-value	Log 2 expression		
					Chondrocyte sheet	Chondrocyte sheet-cancellous bone tissue	Cancellous bone
1	Q8N8U9	BMP-binding endothelial regulator protein	regulation of pathway-restricted SMAD protein phosphorylation	0.9785	0	15.6278	0
2	P36894	BMP receptor type-1A	chondrocyte differentiation	0.9978	0	15.5218	0
3	Q9NSA1	FGF 21	cell-cell signaling	1.0119	0	13.8124	0
4	P08069	IGF 1 receptor	positive regulation of PI3K signaling	0.9925	0	14.574	0
5	P18065	IGF-binding protein 2	cellular protein metabolic process	0.9883	0	11.8794	0
6	Q16270	IGF-binding protein 7	cellular protein metabolic process	1.0022	14.1102	0	0
7	Q14766	Latent-TGF beta-binding protein 1	regulation of TGF beta activation	0.9973	18.9445	0	0
8	Q14767	Latent-TGF beta-binding protein 2	TGF beta receptor signaling pathway	0.9898	14.4353	13.0434	0
9	Q9NS15	Latent-TGF beta-binding protein 3	TGF beta activation	0.9900	17.9842	12.9124	0
10	Q9P0M4	Interleukin-17C	inflammatory response	1.0171	0	0	11.9861
11	Q8NFM7	Interleukin-17 receptor D	MAPK cascade	1.0032	0	0	10.9533
12	Q9Y4K3	TNF receptor-associated factor 6	activation of MAPK activity	0.9929	19.8489	12.6466	0
13	Q5GJ75	TNF alpha-induced protein 8-like protein 3	regulation of apoptotic process	0.9930	0	10.4257	0

Supplement Table. S7. List of cytokines and receptors found in the culture media of the chondrocyte sheets, chondrocyte sheet-cancellous bone tissues, and cancellous bones.

No.	Accession number	Protein names	Example of GO term in biological process	Q-value	Log 2 expression		
					DMEM Chondrocyte sheet	DMEM Chondrocyte sheet-cancellous bone tissue	DMEM Cancellous bone
1	Q8WU20	FGF receptor substrate 2	FGF receptor signaling pathway	0.9590	0	10.0451	11.6310
2	Q92896	Cysteine-rich FGF receptor	regulation of chondrocyte differentiation	1.0461	17.9439	0	0
3	P08069	IGF 1 receptor	immune response	0.9927	18.2857	16.8028	14.9464
4	P29279	CCN family member 2	cartilage condensation	1.0231	16.8287	15.1766	14.1805
5	Q16270	IGF-binding protein 7	cellular protein metabolic process	0.9840	0	14.3524	0
6	Q8WX77	IGF-binding protein-like 1	regulation of cell growth	0.9856	16.0886	13.1611	0
7	Q14627	Interleukin-13 receptor subunit alpha-2	cytokine-mediated signaling pathway	1.0042	0	17.1431	16.4826
8	Q9HB29	Interleukin-1 receptor-like 2	cellular response to cytokine stimulus	1.0221	0	16.8606	0
9	Q5VWK5	Interleukin-23 receptor	cytokine-mediated signaling pathway	1.0400	13.1289	13.8837	0
10	Q16552	Interleukin-17A	cytokine-mediated signaling pathway	1.0244	17.1065	0	0
11	O95760	Interleukin-33	interleukin-33-mediated signaling pathway	1.0060	14.3086	0	0
12	Q9NRM6	Interleukin-17 receptor B	positive regulation of inflammatory response	1.0058	13.7460	0	0
13	Q9Y616	Interleukin-1 receptor-associated kinase 3	cytokine-mediated signaling pathway	0.9915	12.4758	0	17.8342
14	Q13007	Interleukin-24	apoptotic process	0.9869	0	0	15.1562
15	Q13077	TNF receptor-associated factor 1	signal transduction	1.0010	0	14.1318	0
16	Q9UBN6	TNF receptor superfamily member 10D	signal transduction	0.9920	0	14.0133	0
17	O14763	TNF receptor superfamily member 10B	cell surface receptor signaling pathway	1.0488	12.4131	11.2207	12.3928
18	P25942	TNF receptor superfamily member 5	cellular response to interleukin-1	0.9819	19.5426	20.0407	20.4257
19	Q9Y6Q6	TNF receptor superfamily member 11A	cell-cell signaling	0.9871	0	15.3405	0
20	O14836	TNF receptor superfamily member 13B	hematopoietic progenitor cell differentiation	1.0265	15.6382	0	0
21	Q9NP84	TNF receptor superfamily member 12A	angiogenesis	1.0108	11.4186	0	0
22	Q9HAV5	TNF receptor superfamily member 27	ectodermal cell differentiation	0.9871	0	0	13.8164