

Supplemental Table 10: Gene ontology (GO) pathway analysis of ocular ABCs demonstrate expression of genes associated with antigen presentation

GO Pathway	Fold Enrichment	Raw p-value	FDR
peptide antigen assembly with MHC class II protein complex (GO:0002503)	> 100	1.30E-07	4.79E-05
MHC class II protein complex assembly (GO:0002399)	> 100	1.30E-07	4.69E-05
peptide antigen assembly with MHC protein complex (GO:0002501)	> 100	3.62E-07	1.11E-04
MHC protein complex assembly (GO:0002396)	> 100	5.42E-07	1.60E-04
positive regulation of aspartic-type peptidase activity (GO:1905247)	> 100	1.94E-04	2.95E-02
regulation of neutrophil activation (GO:1902563)	94.78	2.75E-04	4.02E-02
regulation of aspartic-type peptidase activity (GO:1905245)	86.88	3.21E-04	4.56E-02
mature B cell differentiation (GO:0002335)	65.16	1.84E-05	3.91E-03
B cell homeostasis (GO:0001782)	65.16	1.84E-05	3.86E-03
immunoglobulin production involved in immunoglobulin mediated immune response (GO:0002381)	60.15	2.30E-05	4.62E-03
B cell proliferation (GO:0042100)	50.86	1.62E-06	4.37E-04
negative regulation of B cell activation (GO:0050869)	47.39	4.44E-05	7.95E-03
B cell receptor signaling pathway (GO:0050853)	40.72	8.14E-14	8.64E-11
antigen processing and presentation of exogenous peptide antigen via MHC class II (GO:0019886)	37.23	1.08E-09	6.59E-07
B cell activation (GO:0042113)	37.23	1.01E-14	1.24E-11
antigen processing and presentation of peptide antigen via MHC class II (GO:0002495)	36.49	1.23E-09	7.25E-07
interferon-gamma-mediated signaling pathway (GO:0060333)	36.2	3.55E-07	1.11E-04
antigen processing and presentation of peptide or polysaccharide antigen via MHC class II (GO:0002504)	35.77	1.40E-09	7.69E-07
B cell activation involved in immune response (GO:0002312)	35.54	9.95E-05	1.57E-02
B cell differentiation (GO:0030183)	33.48	2.17E-09	1.15E-06
regulation of cell adhesion mediated by integrin (GO:0033628)	32.58	1.27E-04	1.98E-02
lymphocyte homeostasis (GO:0002260)	29.51	1.68E-04	2.57E-02
antigen receptor-mediated signaling pathway (GO:0050851)	26.42	8.03E-18	6.39E-14
lymphocyte proliferation (GO:0046651)	25.74	2.09E-05	4.31E-03
mononuclear cell proliferation (GO:0032943)	25.12	2.29E-05	4.67E-03
regulation of B cell proliferation (GO:0030888)	24.82	2.74E-04	4.03E-02
positive regulation of leukocyte proliferation (GO:0070665)	22.18	3.45E-07	1.10E-04
leukocyte proliferation (GO:0070661)	21.95	3.80E-05	7.04E-03
positive regulation of T cell proliferation (GO:0042102)	21.5	4.11E-05	7.44E-03
antigen processing and presentation of exogenous peptide antigen (GO:0002478)	20.73	5.15E-08	2.16E-05
antigen processing and presentation of exogenous antigen (GO:0019884)	19.94	6.67E-08	2.72E-05
positive regulation of lymphocyte proliferation (GO:0050671)	19.45	6.62E-06	1.60E-03
positive regulation of mononuclear cell proliferation (GO:0032946)	19.31	6.85E-06	1.63E-03
antigen processing and presentation of peptide antigen (GO:0048002)	18.71	1.01E-07	3.84E-05
antigen processing and presentation (GO:0019882)	18.62	1.16E-08	5.77E-06
immune response-regulating signaling pathway (GO:0002764)	18.23	1.25E-17	6.64E-14
immune response-activating cell surface receptor signaling pathway (GO:0002429)	17.45	2.96E-15	4.28E-12
immune response-activating signal transduction (GO:0002757)	17.45	2.96E-15	3.92E-12
lymphocyte differentiation (GO:0030098)	17.45	1.89E-08	8.36E-06
T cell receptor signaling pathway (GO:0050852)	17.38	1.37E-06	3.76E-04
immune response-regulating cell surface receptor signaling pathway (GO:0002768)	17.27	3.28E-16	7.46E-13
regulation of B cell activation (GO:0050864)	17.13	1.81E-07	6.41E-05
adaptive immune response (GO:0002250)	16.98	2.56E-20	4.07E-16
regulation of lymphocyte proliferation (GO:0050670)	16.89	1.99E-07	6.73E-05
regulation of mononuclear cell proliferation (GO:0032944)	16.74	2.11E-07	7.00E-05
lymphocyte activation (GO:0046649)	16.42	5.78E-12	4.84E-09
regulation of leukocyte proliferation (GO:0070663)	15.93	2.92E-07	9.47E-05
cellular response to interferon-gamma (GO:0071346)	15.89	1.71E-05	3.67E-03
leukocyte differentiation (GO:0002521)	15.24	8.79E-10	5.59E-07
activation of immune response (GO:0002253)	15.07	2.39E-14	2.72E-11
positive regulation of T cell activation (GO:0050870)	15.04	3.09E-06	7.81E-04
response to interferon-gamma (GO:0034341)	14.01	3.08E-05	5.97E-03
positive regulation of leukocyte cell-cell adhesion (GO:1903039)	13.84	4.92E-06	1.22E-03
adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains (GO:0002460)	13.51	8.57E-07	2.39E-04
positive regulation of peptidase activity (GO:0010952)	13.3	3.93E-05	7.18E-03
regulation of T cell proliferation (GO:0042129)	12.79	2.88E-04	4.16E-02
immunoglobulin mediated immune response (GO:0016064)	12.78	4.73E-05	8.09E-03
positive regulation of immune response (GO:0050778)	12.61	5.72E-16	1.01E-12
B cell mediated immunity (GO:0019724)	12.59	5.06E-05	8.57E-03
Fc-epsilon receptor signaling pathway (GO:0038095)	12.05	3.59E-04	4.96E-02
lymphocyte mediated immunity (GO:0002449)	11.94	1.12E-05	2.59E-03
positive regulation of immune effector process (GO:0002699)	11.69	7.14E-05	1.17E-02
positive regulation of cell-cell adhesion (GO:0022409)	11.58	1.33E-05	2.97E-03
positive regulation of leukocyte activation (GO:0002696)	11.44	7.60E-08	3.02E-05
positive regulation of lymphocyte activation (GO:0051251)	11.33	4.75E-07	1.43E-04
regulation of leukocyte activation (GO:0002694)	11.2	6.77E-11	5.39E-08
positive regulation of cell activation (GO:0050867)	11.06	1.01E-07	3.90E-05
hemopoiesis (GO:0030097)	10.99	5.25E-10	3.48E-07
regulation of lymphocyte activation (GO:0051249)	10.96	3.25E-09	1.67E-06
regulation of immune response (GO:0050776)	10.62	2.40E-17	9.55E-14
regulation of cell activation (GO:0050865)	10.51	1.47E-10	1.11E-07
immune system development (GO:0002520)	10.36	1.74E-10	1.26E-07
hematopoietic or lymphoid organ development (GO:0048534)	10.14	1.29E-09	7.34E-07
regulation of leukocyte cell-cell adhesion (GO:1903037)	10.12	2.79E-05	5.56E-03
regulation of T cell activation (GO:0050863)	9.65	3.62E-05	6.78E-03
positive regulation of immune system process (GO:0002684)	9.64	1.18E-15	1.88E-12
leukocyte activation (GO:0045321)	9.1	5.06E-12	4.73E-09
cell activation (GO:0001775)	8.82	2.40E-13	2.39E-10
regulation of cell-cell adhesion (GO:0022407)	8.81	1.35E-05	2.98E-03
positive regulation of cytosolic calcium ion concentration (GO:0007204)	8.75	2.70E-04	4.01E-02
positive regulation of defense response (GO:0031349)	8.5	7.26E-05	1.18E-02
regulation of immune system process (GO:0002682)	7.78	4.20E-17	1.34E-13
regulation of immune effector process (GO:0002697)	7.71	3.13E-05	6.00E-03
leukocyte activation involved in immune response (GO:0002366)	7.59	2.22E-06	5.79E-04
cell activation involved in immune response (GO:0002263)	7.54	2.34E-06	6.00E-04
positive regulation of cell adhesion (GO:0045785)	7.43	1.50E-04	2.32E-02
immune response (GO:0006955)	6.97	7.88E-17	2.09E-13
response to bacterium (GO:0009617)	6.64	6.54E-06	1.60E-03
leukocyte mediated immunity (GO:0002443)	6.17	1.16E-05	2.64E-03
innate immune response (GO:0045087)	6.05	1.37E-05	2.98E-03
cytokine-mediated signaling pathway (GO:0019221)	6.01	4.63E-05	8.10E-03
response to other organism (GO:0051707)	5.8	1.29E-08	6.22E-06
immune effector process (GO:0002252)	5.8	5.55E-07	1.61E-04
response to external biotic stimulus (GO:0043207)	5.8	1.32E-08	6.16E-06
regulation of cytokine production (GO:0001817)	5.74	6.40E-05	1.07E-02
response to biotic stimulus (GO:0009607)	5.66	1.80E-08	8.17E-06
regulation of defense response (GO:0031347)	5.33	3.02E-04	4.34E-02
immune system process (GO:0002376)	5.27	3.39E-16	6.75E-13
regulation of cell adhesion (GO:0030155)	5.19	3.56E-04	4.98E-02
positive regulation of response to stimulus (GO:0048584)	4.89	5.31E-12	4.69E-09
defense response to other organism (GO:0098542)	4.86	7.54E-05	1.21E-02
positive regulation of cell population proliferation (GO:0008284)	4.53	3.21E-04	4.52E-02
interspecies interaction between organisms (GO:0044419)	4.44	5.11E-08	2.20E-05
defense response (GO:0006952)	3.83	1.97E-04	2.95E-02
cell surface receptor signaling pathway (GO:0007166)	3.78	1.96E-07	6.77E-05
homeostatic process (GO:0042592)	3.76	4.57E-05	8.09E-03
regulation of response to stimulus (GO:0048583)	3.25	2.58E-10	1.78E-07
response to external stimulus (GO:0009605)	3.16	2.85E-05	5.60E-03
cell differentiation (GO:0030154)	2.51	7.12E-05	1.18E-02
cellular developmental process (GO:0048869)	2.45	9.92E-05	1.58E-02
signal transduction (GO:0007165)	2.34	9.62E-06	2.25E-03
positive regulation of biological process (GO:0048518)	2.25	1.72E-06	4.56E-04
signaling (GO:0023052)	2.18	3.60E-05	6.81E-03
cell communication (GO:0007154)	2.14	4.68E-05	8.09E-03
response to stimulus (GO:0050896)	1.95	8.17E-07	2.32E-04