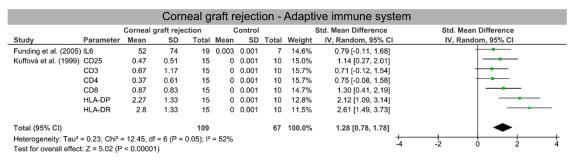
Supplementary Material

DISEASE	KEYWORDS TO INCLUDE	KEYWORDS TO EXCLUDE
Contact Lens Wearer	Contact Lens, Cells, Contact Lens Wear, Patient, ramdomly	Review, in vitro , animal, treatment
Corneal Graft Rejection	Cells, T cells, CD4, corneal graft, macrophages, CD8, corneal graft rejection, lymphocytes, dendritric cells, patient, controls, neutrophils, ocular surface, conjunctival, Treg cells, Th1 cells, Th17 cells, healthy controls, memory, Th2 cells, lacrimal	Review, in vitro , animal, treatment
Dry Eye	T cells, dry, dry eye, CD4+ T cells, Plasma cells, dendritic cells, T lymphocytes, Th1, macrophages, B lymphocytes, Neutrophils, DED, Th17 cells, CD8+ T cells, Th1 cells, Treg cells, Th2 cells, memory T cells, natural killer T cells, Innate lymphoid cells, gd T cells	Review, syndrome, Sjögren, SS, animal, treatment
Glaucoma	Glaucoma, cells, patients, macrophages, ocular, plasma, conjuctival, lymphocites, surface, T cells, Neutrophils, dendritic cells, CD4, CD8, Treg cells, Th2 cells, Th1 cells, lacrimal, autoinmune, Th17 cells, memory	Review, blood, animals, treatment
GvHD	Graft-versus-Host, cells, patients, T cells, eye, CD4, CD8, Lymphocytes, lacrimal, dendritic cells, ocular surface macrophages, plasma cells, neutrophils, Th17 cells, Treg cells, Th1 cells, Th2 cells	Review, treatment, skin, bone, animal, blood, cancer
Scletitis	Scleritis, cells, lymphocytes, dendritic, neutrophils	Review, blood, animal, treatment
Keratits	keratitis, cells, neutrophils, CD8, lymphocytes, ocular surface, dendritic cells, Th1 cells, memory, Th17 cells, lacrimal, Treg cells, Th2	Review, blood, animal, treatment
Sjögren's syndrome	Syndrome, Sjögren's syndrome, cell, patient, SS, T cells, Lymphocytes, CD4, controls, plasma, lacrimal, plasma cells, CD+, surface, dendritic, Th17, macrophages, Th1, eye, memory, Th2, ocular, neutrophils, Treg, conjunctiva	Review, salivary, blood, treatment, labial, peripheral blood mononuclear, mouth, lip

Table 1S. Keywords used to filter the records identified through database searching in order to obtain the final studies to perform the meta-analysis.

		Contac	Contact lens wea		C	ontrol			Std. Mean Difference	Std. Mean Difference
Study	Parameter	Mean	\$D	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Alzahrani et al. (2016)	Dendritic cells	36	32	10	20	19	10	16.4%	0.58 [-0.32, 1.48]	+-
Alzahrani et al. (2017)	Dendritic cells	55	7	25	27	4	23	15.5%	4.78 [3.63, 5.93]	
Efron et al. (2010)	Dendritic cells	17	17	11	23	25	11	16.6%	-0.27 [-1.11, 0.57]	
ópez-De La Rosa et al. (2018)	Dendritic cells	93.65	85.3	40	57.5	70.2	20	17.3%	0.44 [-0.10, 0.99]	 -
Sindt et al. (2012)	Dendritic cells	64	71	53	29	23	10	17.0%	0.52 [-0.16, 1.20]	+-
Zhivov et al. (2007)	Dendritic cells	78	25	33	34	3	43	17.2%	2.62 [2.00, 3.25]	
Total (95% CI)				172			117	100.0%	1.41 [0.18, 2.64]	

Figure 1S. Meta-Analysis results for contact lens wearers. Only innate immune system is shown, because no adaptive immune cells were found.



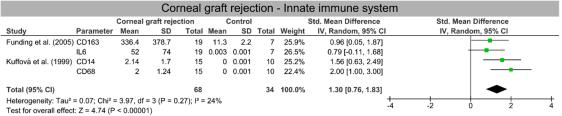
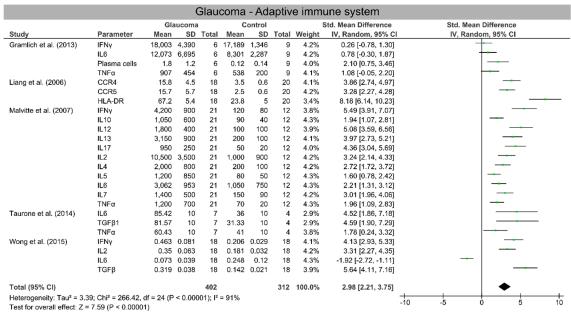


Figure 2S. Meta-Analysis results for corneal graft rejection

			DED		(ontrol		,	Std. Mean Difference	Std. Mean Difference
Study	Parameter	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Bose et al. (2017)	CD4 ⁺ Naïve	3	2	16	0.5	0.001	39	3.1%	2.32 [1.58, 3.05]	-
` ,	CD4 ⁺ T _{CM}	14	11	16	2	1	39	3.2%	2.00 [1.30, 2.70]	-
	CD4 ⁺ T _{EM} -T _{EM}	37	20	36	7	4	39	3.3%	2.10 [1.53, 2.67]	-
	CD8 ⁺ Naïve	24	7	16	4.3	2	39	2.7%	4.75 [3.66, 5.84]	
	CD8 ⁺ T _{CM}	30	10	16	2	3	39	2.8%	4.68 [3.60, 5.76]	
	CD8 ⁺ T _{EMRA} -T _{RM}	90	10	36	36	18	39	3.1%	3.63 [2.88, 4.38]	
Celik (2017)	NLR	2.6	1.2	78	1.84	0.5	60	3.4%	0.79 [0.44, 1.14]	-
, ,	PLR	138.4	62.6	78	118.5	64.7	60	3.5%	0.31 [-0.03, 0.65]	 -
Ji et al. (2017)	IL17	0.65	0.5	31	0.05	0.001	18	3.2%	1.48 [0.82, 2.13]	-
, ,	IL22	1.8	0.7	31	0.25	0.15	18	3.1%	2.69 [1.89, 3.50]	
Liu et al. (2017)	IL17	1.6	0.2	15		0.001	15	2.5%	4.13 [2.80, 5.46]	
, , ,	IL23	2.05	0.4	15		0.001	15	2.6%	3.61 [2.40, 4.83]	
	IL6	1.2	0.1	15	1	0.001	15	2.8%	2.75 [1.72, 3.79]	
Luo et al. (2017)	IFNy	25.8	10.6	30	19.3	9.7	30	3.3%	0.63 [0.11, 1.15]	-
` ,	IL10	56.1	15.3	30	51	11.3	30	3.3%	0.37 [-0.14, 0.89]	 -
	IL17	35.3	17.2	30	39.8	12.6	30	3.3%	-0.29 [-0.80, 0.21]	+
	IL33	8	3	30	2.5	1.7	30	3.2%	2.23 [1.57, 2.88]	-
	IL4	4.61	2.37	30	1.54	0.48	30	3.3%	1.77 [1.17, 2.38]	-
	IL5	32.12			12.38	2.95	30	3.1%	2.81 [2.08, 3.53]	-
	TGFβ	291	47.6			51.3	30	3.3%	0.66 [0.14, 1.18]	-
Nicolle et al. (2018)	CCL2	3	2	23	1	0.1	13	3.1%	1.21 [0.47, 1.96]	-
,	CXCL12	2	2.75	32	1	0.2	15	3.2%	0.43 [-0.19, 1.05]	
	CXCR4	2.2	1.6	32	1	0.1	12	3.2%	0.86 [0.17, 1.55]	
	HLA DR	4	2	37	1	0.5	13	3.1%	1.69 [0.97, 2.41]	-
	IL6	18	15	30	0.5	0.001	11	3.1%	1.33 [0.57, 2.08]	-
	CCR2	2.5	2	32	1	0.05	14	3.2%	0.88 [0.22, 1.53]	-
Tan et al. (2014)	IL17	60	40	20	25	23	20	3.2%	1.05 [0.39, 1.72]	-
,,	IL22	11.5	5.5	20	6.5	5	20	3.2%	0.93 [0.28, 1.59]	
Yoon et al. (2010)	CXCL10	1.15	0.35	17	1	0.35	15	3.2%	0.42 [-0.29, 1.12]	+-
()	CXCL11	1.3	0.7	17	0.8	0.4	15	3.1%	0.84 [0.11, 1.57]	
	CXCL9	1.5	0.75	17	0.7	0.5	15	3.1%	1.21 [0.45, 1.97]	
	CXCR3	35	8	17	14	10	15	2.9%	2.28 [1.36, 3.19]	
Total (05% CI)				903			000	400.004	4 60 [4 24 2 07]	
Total (95% CI) Heterogeneity: Tau² =							023	100.0%	1.69 [1.31, 2.07]	

			D	ry ey	e dis	ease	- In	nate in	nmune system	
			DED		(ontrol		:	Std. Mean Difference	Std. Mean Difference
Study	Parameter	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Celik (2017)	NLR	2.6	1.2	78	1.84	0.5	60	10.7%	0.79 [0.44, 1.14]	+
	PLR	138.4	62.6	78	118.5	64.7	60	10.7%	0.31 [-0.03, 0.65]	 -
Kherirkhah et al. (2015a) Dendritic cell	111.7	137.3	45	32	24.4	15	10.4%	0.65 [0.06, 1.25]	 •
Kherirkhah et al. (2015b) Dendritic cell	133.19	25.01	37	19.6	2.8	20	9.4%	5.52 [4.34, 6.70]	_ -
Nicolle et al. (2018)	CCL2	3	2	23	1	0.1	13	10.2%	1.21 [0.47, 1.96]	-
	Dendritic cell	103.5	84.5	25	49.2	43.7	15	10.4%	0.74 [0.07, 1.40]	-
	IL6	18	15	30	0.5	0.001	11	10.2%	1.33 [0.57, 2.08]	
	CCR2	2.5	2	32	1	0.05	14	10.4%	0.88 [0.22, 1.53]	
Shetty et al. (2016)	Dendritic cell	52.9	5	52	9.1	1.3	43	8.2%	11.42 [9.71, 13.13]	→
Tepelus et al. (2017)	Dendritic cell	40	7	12	27	2	7	9.3%	2.16 [0.95, 3.37]	
Total (95% CI)				412			258	100.0%	2.27 [1.28, 3.25]	•
Heterogeneity: Tau ² = 2. Test for overall effect: Z			(P < 0.	00001)	; I ² = 96	i%			-10	-5 0 5 10

Figure 3S. Meta-analysis for Dry Eye Disease

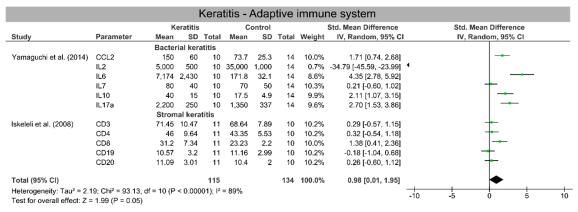


		Gla	ucoma		С	ontrol		:	Std. Mean Difference	Std. Mean Difference
Study	Parameter	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Baghdasaryan et al. (2018)	Dendritic cells	71.24	61.74	30	34.08	11.7	20	8.1%	0.75 [0.17, 1.34]	-
Gramlich et al. (2013)	IFNγ	18,003	4,390	6	17,189	1,346	9	7.4%	0.26 [-0.78, 1.30]	+
	IL1β	15,625	4,194	6	11,262	2,590	9	7.1%	1.24 [0.09, 2.40]	
	IL6	12,073	6,695	6	8,301	2,287	9	7.3%	0.78 [-0.30, 1.87]	
	IL8	13,394	2,749	6	9,990	1,632	9	7.0%	1.50 [0.29, 2.71]	
Malvitte et al. (2007)	IL12	1,800	400	21	100	100	12	6.4%	5.08 [3.59, 6.56]	
	IL13	3,150	900	21	200	100	12	6.9%	3.97 [2.73, 5.21]	
	IL1β	1,300	1,200	21	90	80	12	7.8%	1.22 [0.45, 2.00]	-
	IL6	3,062	953	21	1,050	750	12	7.6%	2.21 [1.31, 3.12]	-
	IL8	4,650	1,383	21	356	93	12	7.0%	3.77 [2.57, 4.97]	
Margeta et al. (2018)	CD163+	5.1	0.6	13	2.5	0.3	12	5.8%	5.23 [3.47, 7.00]	
Mastropasqua et al. (2016)	Dendritic cells	33.96	18.77	29	7.33	4.96	15	7.9%	1.68 [0.95, 2.40]	
Taurone et al. (2014)	IL1β	70.42	10	7	38.33	10	4	5.4%	2.93 [0.97, 4.90]	
	IL6	85.42	10	7	36	10	4	4.1%	4.52 [1.86, 7.18]	
	TGFβ1	81.57	10	7	31.33	10	4	4.1%	4.59 [1.90, 7.29]	
Total (95% CI)				222			155	100.0%	2.43 [1.68, 3.18]	•

Figure 4S. Meta-analysis for Glaucoma

			Gra	ft-vs-	-host	dise	ase -	- Innate	e immune syster	n				
		(SVHD		C	ontrol		;	Std. Mean Difference		Std. Mean Difference			
Study	udy Parameter Mean SD Total Mean SD Total Weight IV, Random, 95% CI													
He et al. (2017)	Dendritic cells	119.29	79.78	12	37.57	21.72	10	43.5%	1.29 [0.35, 2.23]			·	_	
Kheirkhah et al. (2016)	Dendritic cells	148	135	33	122	99	21	56.5%	0.21 [-0.34, 0.76]			+		
Total (95% CI)				45			31	100.0%	0.68 [-0.37, 1.73]				-	
Heterogeneity: Tau2 = 0	0.43; Chi ² = 3.80,	, df = 1 (P	= 0.05); I ² = 7	4%								<u> </u>	
Test for overall effect: 2	Z = 1.27 (P = 0.20	0)								-4	-2	U	2	4

Figure 5S. Meta-analysis for Graft vs Host Disease. Only innate immune system is shown, because no adaptive immune cells were found.



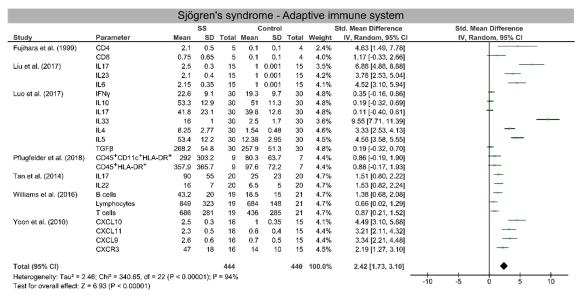
		K	eratitis		Co	ontrol		St	td. Mean Difference	Std. Mean Difference
Study	Parameter	Mean	SD	Total	Mean	SD	Total	Weight	IV, Random, 95% CI	IV, Random, 95% CI
		Fung	al kerat	itis						
Cruzat et al. (2011)	Dendritic cells	608.9	812.5	13	49.3	39.6	20	11.1%	1.08 [0.33, 1.83]	
		Bacte	rial kera	titis						
Cruzat et al. (2011)	Dendritic cells	441.1	320.5	23	49.3	39.6	20	11.2%	1.63 [0.93, 2.33]	-
Yamaguchi et al. (2014)	Dendritic cells	226.9	37.3	10	22.7	5.9	14	6.4%	8.12 [5.48, 10.76]	
	CCL2	150	60	10	73.7	25.3	14	10.6%	1.71 [0.74, 2.68]	
	GM-CSF	120	80	10	100	90	14	10.9%	0.22 [-0.59, 1.04]	+
	IL1β	66.6	26.7	10	13	4	14	10.0%	2.98 [1.75, 4.21]	
	IL1Ra	350	170	10	40	30	14	10.2%	2.69 [1.53, 3.86]	
	IL6	7,174	2,430	10	171.8	32.1	14	9.1%	4.35 [2.78, 5.92]	
	IL8	810	315	10	56.5	33.8	14	9.6%	3.58 [2.21, 4.95]	
		Stron	nal kera	titis						
lskeleli et al. (2008)	CD16	16.88	5.75	11	18.33	4.3	10	10.9%	-0.27 [-1.13, 0.59]	*
Total (95% CI)				117			148	100.0%	2.31 [1.32, 3.30]	•

Figure 6S. Meta-analysis for Keratitis

				Scle	eritis	- Ada	aptive	e imm	une system	
		Sc	cleritis		С	ontrol			Std. Mean Difference	Std. Mean Difference
Study	Parameter	Mean	SD	Total	Mean	SD	Total	Weight IV, Random, 95%		IV, Random, 95% CI
Bernauer et al. (1994)	CD20	0.7	0.7	6	0	0.001	12	8.0%	1.70 [0.54, 2.87]	
	CD3	32.9	18.7	6	2.4	2.9	12	7.4%	2.71 [1.31, 4.11]	
	CD4	17.2	12.2	6	0.8	0.8	12	7.6%	2.28 [0.99, 3.57]	-
	CD8	12.9	10.4	6	0.9	0.9	12	7.8%	1.95 [0.73, 3.17]	-
	HLA-DR	65.6	41.1	6	5.1	2.9	12	7.5%	2.49 [1.15, 3.84]	-
	IL2	2.2	2.1	6	0.1	0.1	12	8.0%	1.70 [0.54, 2.86]	
Fong et al. (1991)	CD22	58.56	39.59	9	0.2	0.12	4	7.4%	1.61 [0.22, 3.00]	
	CD3	145.7	59.46	9	0.17	0.1	4	6.6%	2.67 [0.97, 4.37]	_ -
	CD4	192.37	41.24	9	0.19	0.13	4	4.5%	5.08 [2.46, 7.70]	
	CD8	89.96	38.15	9	0.1	0.1	4	6.7%	2.57 [0.90, 4.24]	_ -
	HLA-DR	210	59.46	9	1.09	0.06	4	5.6%	3.83 [1.71, 5.95]	
Sainz de la Maza et al. (1991)) CD3	84.4	22.35	10	5.41	0.77	13	6.2%	5.20 [3.35, 7.04]	_ -
	CD4	139.54	18.43	10	5.76	1.06	13	3.2%	10.66 [7.18, 14.15]	
	CD8	65.32	19.03	10	6.76	1.67	13	6.7%	4.51 [2.86, 6.16]	_ -
	HLA-DR	45.65	12.03	10	10.43	1.03	13	6.9%	4.29 [2.70, 5.88]	
Total (95% CI)				121			144	100.0%	3.16 [2.39, 3.92]	•
Heterogeneity: Tau ² = 1.55; C Test for overall effect: Z = 8.1		,	P < 0.0	0001); I	² = 72%					-10 -5 0 5 10

					ierius) - II II	late		ne system							
		S	cleritis		(ontrol			Std. Mean Difference	Std. Mean Difference						
Study	dy Parameter Mean SD Total Mean SD		Total	Weight	IV, Random, 95% CI		IV, Rand	lom, 95% CI								
Bernauer et al. (1994)	CD68	26.6	16	6	2.5	2.2	12	14.1%	2.51 [1.16, 3.86]			-				
	HLA-DR	65.6	41.1	6	5.1	2.9	12	14.1%	2.49 [1.15, 3.84]			-				
Fong et al. (1991)	CD1	6.96	5.47	9	0	0.001	4	14.1%	1.39 [0.05, 2.73]			-				
	CD14	43.5	10.91	9	0	0.001	4	9.2%	4.35 [2.03, 6.67]							
	CD16	44.56	34.86	9	0	0.001	4	14.1%	1.39 [0.05, 2.74]			-				
	HLA-DR	210	59.46	9	1.46	0.22	4	10.1%	3.83 [1.71, 5.94]							
Sainz de la Maza et al. (1991)	CD1	5.04	1.02	10	1.02	0.44	13	11.4%	5.19 [3.35, 7.04]							
	HLA-DR	45.65	12.03	10	10.43	1.03	13	12.8%	4.29 [2.70, 5.88]			-				
Total (95% CI)				68			66	100.0%	3.03 [2.05, 4.01]			•				
Heterogeneity: Tau ² = 1.31; Cl Test for overall effect: Z = 6.05			= 0.003	3); I ² = (67%					-10	-5	0 5	10			

Figure 7S. Meta-analysis for Scleritis



		S	jogre	n's s	ynard	ome	- Inn	ate im	mune system						
		SS Control							Std. Mean Difference	Std. Mean Difference					
Study	Parameter	Mean SD Total Mean SD Total W					Total	Weight	IV, Random, 95% CI		IV, R	andom, 95	% CI		
Pflugfelder et al. (2018)	CD45 ⁺ CD11c ⁺ CD86 ⁺	271.6	333.9	8	84.5	63.7	7	25.0%	0.71 [-0.35, 1.76]			-			
Tepelus et al. (2017)	Dendritic cell	71	11	22	27	2	7	23.6%	4.39 [2.90, 5.87]				-		
Williams et al. (2016)	Neutrophils	1.8	0.7	19	5.8	4.5	21	25.8%	-1.19 [-1.87, -0.51]						
	NKT cells	43.9	5	19	31.5	6	21	25.6%	2.19 [1.39, 2.99]			-	-		
Total (95% CI)				68			56	100.0%	1.47 [-0.74, 3.67]			•	-		
Heterogeneity: Tau² = 4.7 Test for overall effect: Z =	78; Chi ² = 66.82, df = 3 (P = 1.30 (P = 0.19)	< 0.0000	01); 2 =	96%					_	-10	-5	0	5	10	

Figure 8S. Meta-analysis for Sjögren's Syndrome