

SUPPLEMENTARY TABLES

Table S1. Tear cytokine concentrations of KPro eyes with glaucoma based on preoperative diagnosis

Cytokine	Corneal endothelial disorders (n=8)	Trauma (n=3)	Corneal scar (n=15)	Aniridic keratopathy (n=13)	Other congenital anterior segment disorders (n=2)	P-value
Eotaxin	22.21±8.60	21.89±4.63	18.11±8.60	20.06±10.50	19.19±8.74	0.480
FGF-basic	69.56±56.07	68.28±34.21	59.00±57.93	48.91±25.93	76.72±60.49	0.850
G-CSF	195.54±329.23	64.35±50.72	261.01±652.73	157.92±241.79	52.88±24.81	0.928
GM-CSF	0	0	0	0	0	-
IFN-γ	11.54±14.0	6.31±5.34	5.81±11.28	5.01±4.60	7.13±9.38	0.971
IL-1β	15.61±14.33	14.35±7.22	13.42±13.68	10.56±10.00	13.93±7.62	0.762
IL-1Ra	5641.5±3882.4	3241.31±3937.9	3152.12±2626.2	4573.1±3229	2407.3±574.4	0.326
IL-2	1.87±1.99	0.60±0.43	1.08±2.01	0.59±0.526	1.40±0	0.623
IL-4	2.34±0.87	0.47±0.43	2.87±3.28	4.58±6.87	1.57±0	0.320
IL-5	4.70±5.68	3.16±1.09	2.51±3.18	1.50±1.10	2.01±1.62	0.313
IL-6	67.47±157.39	11.50±12.88	31.75±78.03	17.84±13.64	13.11±0.26	0.858
IL-7	4.78±6.84	8.87±0	1.78±1.23	3.87±1.06	0	0.224
IL-8	576.15±715.83	699.67±1017.3	484.56±661.26	432.84±491.13	169.96±102.16	0.945
IL-9	19.61±11.76	14.11±4.38	11.42±14.29	21.44±22.71	12.01±10.62	0.587
IL-10	16.66±16.31	9.88±3.23	17.06±30.46	26.97±73.95	10.21±10.30	0.893
IL-12p70	21.13±7.39	6.50±3.01	8.41±16.99	8.36±2.57	13.90±0	0.195
IL-13	26.70±24.08	13.30±9.15	13.02±25.56	8.67±9.08	28.01±0	0.273
IL-15	8.54±5.57	9.82±3.80	6.76±5.44	7.08±2.90	6.15±4.57	0.459
IL17A	9.29±10.93	8.00±7.36	6.05±9.38	4.54±4.42	8.2±8.58	0.881
IP-10	11692±6092	17027±2825	8439±4400	7754±7904	6788±4911	0.132
MCP-1	251.46±221.80	171.06±85.74	162.34±202.79	281.70±581.01	542.86±288.27	0.212
MIP-1α	0	0	39.49±21.03	36.77±30.98	0	0.831
MIP-1β	12.01±15.25	6.34±1.36	13.89±22.01	6.40±5.45	4.45±3.10	0.811
PDGF-AB/BB	0	112.25±0	361.66±0	0	0	0.317
TNF-α	6.77±7.79	7.19±2.76	5.86±7.91	4.47±2.29	5.71±7.58	0.668
VEGF	253.53±177.31	198.95±132.53	236.86±262.95	207.24±211.61	186.51±102.79	0.937
RANTES	14.31±10.85	11.5±9.19	9.33±8.20	5.99±3.99	4.02±2.43	0.164

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0. Statistically significant differences between groups are highlighted in bold.

Table S2. Tear cytokine concentrations of KPro eyes with glaucoma based on prostaglandin analogue drops use

Cytokine	No prostaglandin analogue (n=9)	Prostaglandin analogue (n=32)	P-value
Eotaxin	21.44±10.94	19.39±8.16	0.961
FGF-basic	61.76±32.38	58.74±50.07	0.449
G-CSF	35.13±39.97	244.15±497.29	0.012
GM-CSF	0	0	-
IFN-γ	5.91±4.34	6.85±10.72	0.327
IL-1β	15.75±9.18	12.16±12.36	0.116
IL-1Ra	4334.17±2840.99	3981.08±3293.94	0.614
IL-2	0.72±0.47	1.13±1.66	0.606
IL-4	1.17±0.55	3.24±4.35	0.499
IL-5	1.77±1.11	2.89±3.69	0.671
IL-6	10.33±7.92	37.99±93.32	0.244
IL-7	7.91±9.84	3.04±2.38	0.715
IL-8	510.84±699.94	479.55±600.96	0.777
IL-9	13.78±5.67	17.40±17.40	0.833
IL-10	9.06±10.98	22.13±50.72	0.560
IL-12p70	7.01±4.84	11.67±14.83	0.887
IL-13	11.04±9.81	15.76±22.03	0.899
IL-15	7.73±3.67	7.31±4.79	0.560
IL17A	6.24±4.79	6.55±8.97	0.419
IP-10	7863.66±7502.54	9838.04±6016.78	0.469
MCP-1	180±29±237.00	252.66±397.33	0.571
MIP-1α	61.71±37.02	31.90±21.88	0.117
MIP-1β	10.34±14.63	10.14±15.80	0.810
PDGF-AB/BB	0	0	-
TNF-α	4.85±3.42	6.02±6.84	0.841
VEGF	171.30±150.25	240.73±225.35	0.369
RANTES	8.77±11.40	9.25±6.96	0.299

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

Statistically significant differences between groups are highlighted in bold.

Table S3. Tear cytokine concentrations of KPro eyes with glaucoma based on beta blocker drops use

Cytokine	No beta blocker (n=10)	Beta blocker (n=31)	P-value
Eotaxin	22.62±14.12	18.93±6.12	0.731
FGF-basic	73.45±69.85	54.88±36.35	0.484
G-CSF	23.64±15.46	256.15±503.48	0.002
GM-CSF	0	0	-
IFN-γ	10.77±14.49	5.45±7.54	0.061
IL-1β	16.82±18.33	11.69±8.57	0.755
IL-1Ra	30007.24±2516.85	4397.74±3317.47	0.202
IL-2	1.48±2.32	0.88±1.12	0.784
IL-4	2.87±3.28	2.74±4.12	1.000
IL-5	2.68±3.15	2.63±3.42	0.927
IL-6	9.02±6.22	39.30±94.62	0.089
IL-7	5.11±6.60	3.19±2.55	1.000
IL-8	323.71±493.83	538.91±647.48	0.225
IL-9	18.20±14.62	15.97±15.70	0.550
IL-10	8.53±14.28	22.73±51.18	0.230
IL-12p70	12.46±19.30	9.16±8.56	0.947
IL-13	18.18±29.88	13.24±15.03	0.904
IL-15	8.26±5.98	7.12±4.04	0.727
IL17A	8.98±11.85	5.70±6.65	0.336
IP-10	8165.50±7348.39	9804.37±6037.77	0.466
MCP-1	61.11±45.55	293.44±406.34	0.008
MIP-1α	56.82±43.92	33.12±21.77	0.602
MIP-1β	6.30±3.50	11.26±17.16	0.618
PDGF-AB/BB	0	0	0.317
TNF-α	7.21±9.43	5.31±5.00	0.641
VEGF	254.23±284.97	216.22±186.81	0.879
RANTES	6.95±4.01	9.85±8.83	0.595

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

Statistically significant differences between groups are highlighted in bold.

Table S4. Tear cytokine concentrations of KPro eyes with glaucoma based on carbonic anhydrase inhibitor drops use

Cytokine	No carbonic anhydrase inhibitor (n=18)	Carbonic anhydrase inhibitor (n=23)	P-value
Eotaxin	20.11±8.47	19.66±9.13	0.956
FGF-basic	56.05±30.49	62.04±56.40	0.813
G-CSF	229.86±603.80	162.24±241.94	0.094
GM-CSF	0	0	-
IFN-γ	5.79±4.78	7.25±12.04	0.279
IL-1β	12.63±8.71	13.25±13.90	0.559
IL-1Ra	3718.64±3172.28	4324.64±3212.28	0.511
IL-2	0.63±0.548	1.40±1.923	0.670
IL-4	3.38±5.64	2.23±1.69	0.568
IL-5	2.04±2.11	3.11±4.01	0.270
IL-6	28.81±71.23	34.35±92.75	0.636
IL-7	4.19±6.01	3.49±2.59	0.549
IL-8	585.08±746.78	409.21±492.17	0.753
IL-9	18.88±17.36	14.59±13.68	0.352
IL-10	24.50±62.65	15.17±25.52	0.833
IL-12p70	6.88±4.38	13.79±17.46	0.949
IL-13	11.31±9.25	17.68±26.03	0.724
IL-15	6.96±3.45	7.75±5.27	0.773
IL17A	5.71±4.93	7.11±10.08	0.758
IP-10	9344.54±6184.43	9451.68±6569.98	0.895
MCP-1	163.53±182.37	294.10±459.38	0.528
MIP-1α	53.56±30.38	27.39±18.61	0.201
MIP-1β	15.41±21.77	6.20±5.51	0.244
PDGF-AB/BB	0	0	0.317
TNF-α	5.37±4.04	6.03±7.54	0.561
VEGF	217.05±235.79	232.09±195.55	0.379
RANTES	9.56±10.15	8.81±5.98	0.599

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

Statistically significant differences between groups are highlighted in bold.

Table S5. Tear cytokine concentrations of KPro eyes with glaucoma based on cholinergic agonist drops use

Cytokine	No cholinergic agonist (n=38)	Cholinergic agonist (n=3)	P-value
Eotaxin	19.98±9.06	18.35±3.36	0.837
FGF-basic	60.55±47.67	44.86±26.55	0.482
G-CSF	198.19	452.83	0.314
GM-CSF	0	0	-
IFN-γ	6.80±9.73	3.75±4.19	0.697
IL-1β	13.32±12.01	8.64±6.83	0.521
IL-1Ra	4032.64±3213.45	4387.29±3112.60	0.764
IL-2	1.09±1.48	0.24±0.07	0.424
IL-4	2.98±3.97	0.16±0	0.109
IL-5	2.68±3.42	2.20±1.78	0.960
IL-6	33.44±86.11	12.65±12.25	0.652
IL-7	3.61±3.82	4.53±6.14	0.855
IL-8	458.83±592.29	835.94±934.53	0.515
IL-9	17.26±15.64	8.04±4.21	0.275
IL-10	20.31±46.88	6.05±5.46	0.564
IL-12p70	10.80±13.14	4.37±0	0.710
IL-13	15.02±20.42	10.05±10.20	0.960
IL-15	7.25±4.58	9.28±4.12	0.317
IL17A	6.70±8.34	3.86±4.91	0.448
IP-10	8818.71±6159.99	16826.46±2971.30	0.040
MCP-1	242.99±380.19	158.11±77.48	0.726
MIP-1α	0	0	-
MIP-1β	10.51±15.99	6.46±1.56	0.469
PDGF-AB/BB	0	0	-
TNF-α	5.85±6.41	4.48±2.79	0.958
VEGF	222.31±217.86	265.78±117.13	0.250
RANTES	8.77±7.98	13.82±7.67	0.147

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

Statistically significant differences between groups are highlighted in bold.

Table S6. Tear cytokine concentrations of KPro eyes with glaucoma based on alpha agonist drops use

Cytokine	No alpha agonist (n=19)	Alpha agonist (n=22)	P-value
Eotaxin	19.92±8.00	19.79±9.56	0.871
FGF-basic	54.36±26.39	63.76±58.85	0.637
G-CSF	241.72±604.30	147.44±196.81	0.302
GM-CSF	0	0	-
IFN-γ	3.94±3.81	8.97±12.18	0.326
IL-1β	12.00±7.70	13.76±14.33	0.796
IL-1Ra	3786.38±3431.87	4293.68±2985±47	0.347
IL-2	0.69±0.50	1.14±1.66	0.768
IL-4	1.71±1.17	3.23±4.61	0.877
IL-5	2.99±4.07	2.34±2.57	0.522
IL-6	52.60±119.75	14.05±11.12	0.464
IL-7	5.25±5.56	2.90±2.69	0.317
IL-8	480.39±555.64	491.63±674.83	0.714
IL-9	11.75±8.76	21.59±19.14	0.254
IL-10	14.74±26.59	23.17±57.10	0.844
IL-12p70	4.24±4.81	16.44±15.56	0.035
IL-13	8.24±7.69	19.64±24.70	0.584
IL-15	5.88±2.31	8.72±5.53	0.056
IL17A	4.85±3.77	7.95±10.52	0.942
IP-10	8234.30±6584.75	10415.39±6059.14	0.308
MCP-1	237.50±263.96	236±443.26	0.896
MIP-1α	51.39±27.26	28.84±23.21	0.136
MIP-1β	7.60±10.90	12.64±18.61	0.098
PDGF-AB/BB	0	0	-
TNF-α	3.80±2.63	7.60±7.92	0.115
VEGF	209.23±195.43	239.53±228.03	0.629
RANTES	8.43±7.46	9.76±8.52	0.497

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

Statistically significant differences between groups are highlighted in bold.

Table S7. Tear cytokine concentrations of KPro eyes with glaucoma based on steroid drops use

Cytokine	No steroid drops (n=1)	Steroid drops (n=40)	P-value
Eotaxin	21.80±0	19.80±8.85	0.461
FGF-basic	28.05±0	60.19±46.73	0.219
G-CSF	935.04±0	172.71±428.35	0.111
GM-CSF	0	0	-
IFN-γ	0	0	-
IL-1β	0	0	-
IL-1Ra	13737.33±0	3816.62±2800.08	0.091
IL-2	0	0	-
IL-4	3.33±0	2.71±4.05	0.285
IL-5	17.51±0	2.27±2.34	0.091
IL-6	456.04±0	21.31±48.43	0.091
IL-7	3.12±0	3.79±4.07	0.901
IL-8	1632.26±0	457.78±594.34	0.176
IL-9	32.84±0	15.71±15.09	0.174
IL-10	40.48±0	18.73±45.70	0.150
IL-12p70	0	0	-
IL-13	0	0	-
IL-15	4.66±0	7.47±4.57	0.422
IL17A	0	0	-
IP-10	5033.67±0	9513.92±6365.68	0.554
MCP-1	491.27±0	230.41±369.12	0.176
MIP-1α	0	0	-
MIP-1β	3.27±0	10.38±15.53	0.399
PDGF-AB/BB	0	0	-
TNF-α	3.41±0	5.81±6.27	0.722
VEGF	478.89±0	219.15±210.19	0.205
RANTES	19.78±0	8.88±7.89	0.176

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

Statistically significant differences between groups are highlighted in bold.

Table S8. Tear cytokine concentrations of KPro eyes with glaucoma based on prior incisional glaucoma surgery

Cytokine	No incisional glaucoma surgery (n=17)	Incisional glaucoma surgery (n=24)	P-value
Eotaxin	20.68±6.81	19.30±9.93	0.176
FGF-basic	53.75±29.48	63.41±55.69	0.989
G-CSF	155.73±256.38	221.94±545.97	0.927
GM-CSF	0	0	-
IFN-γ	5.08±5.71	7.97±11.88	0.985
IL-1β	12.87±7.49	13.04±14.00	0.415
IL-1Ra	4925.40	4110.19	0.543
IL-2	0.67±0.730	1.36±1.88	0.375
IL-4	3.24±4.77	2.00±2.03	0.558
IL-5	2.67±4.04	2.62±2.80	0.508
IL-6	42.29±106.96	24.57±62.45	0.064
IL-7	2.84±2.78	4.64±4.86	0.406
IL-8	704.22±784.74	332.15±411.33	0.255
IL-9	21.58±17.47	12.52±12.42	0.054
IL-10	34.63±67.13	8.38±11.36	0.038
IL-12p70	7.21±6.37	12.69±16.06	0.747
IL-13	11.67±10.79	17.35±25.56	0.496
IL-15	7.80±3.43	7.12±5.23	0.118
IL17A	5.66±5.44	7.02±9.55	0.964
IP-10	9201.24±6561.11	9548.72±6289.97	0.812
MCP-1	213.63±198.21	253.17±453.78	0.397
MIP-1α	40.64±22.82	35.07±31.56	0.465
MIP-1β	13.81±20.51	7.42±9.50	0.408
PDGF-AB/BB	0	0	-
TNF-α	6.13±176.36	6.13±4.16	0.063
VEGF	284.32±258.47	183.81±164.09	0.404
RANTES	1-.97±9.87	7.84±6.22	0.427

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

Statistically significant differences between groups are highlighted in bold.

Table S9. Tear cytokine concentrations of KPro eyes with glaucoma based on open or closed iridocorneal angle

Cytokine	Open angle (n=4)	Closed angle (n=29)	P-value
Eotaxin	19.22±3.24	20.49±10.16	0.588
FGF-basic	45.83±23.89	62.09±52.23	0.489
G-CSF	457.33±423.67	187.47±491.89	0.029
GM-CSF	0	0	-
IFN-γ	3.86±2.48	7.86±10.99	0.933
IL-1β	12.70±6.26	13.24±13.45	0.722
IL-1Ra	7748.13±5000.70	3845.68±2869.12	0.110
IL-2	0.24±0.19	1.34±1.70	0.131
IL-4	1.63±1.60	3.27±4.58	0.782
IL-5	5.36±8.11	2.60±2.65	0.741
IL-6	129.37±218.15	24.41±56.54	0.225
IL-7	2.65±1.52	5.17±4.65	0.414
IL-8	939.48±889.33	386.93±499.07	0.270
IL-9	20.00±11.41	18.20±17.54	0.678
IL-10	20.60±19.98	18.30±50.01	0.439
IL-12p70	4.37±0	12.41±14.34	0.527
IL-13	13.37±5.50	16.52±22.41	0.529
IL-15	9.77±4.83	7.44±4.96	0.307
IL17A	5.07±4.32	7.06±9.30	0.890
IP-10	11627.49±5774.92	9046.95±6618.95	0.508
MCP-1	217.52±191.46	243.48±416.82	0.473
MIP-1α	0	0	-
MIP-1β	18.08±24.10	7.43±8.89	0.566
PDGF-AB/BB	0	0	-
TNF-α	4.51±2.32	5.98±7.00	0.768
VEGF	334.17±192.88	212.05±223.51	0.098
RANTES	19.44±13.44	7.83±6.36	0.027

Cytokine concentrations (measured in a percentage (%) of samples in each group named consecutively) are expressed in pg/mL as mean ± SD. Concentrations under the limit of detection were assigned the number 0.

A total of 33 eyes (80.5%) out of 41 had reliable anterior segment OCT allowing for concentration comparisons.

Statistically significant differences between groups are highlighted in bold.