Supplementary Table S1. Study participant details with trachoma grade and results of tests for ocular infection

Sample ID	Ethnicity	Age (Yrs)	Gender	Clinical category	F score	P score	WHO simplified trachoma grade	Amplicor	Ct load per swab
GAR_176	Bambara	3	m	Diseased	2	1	TF	Negative	0
GAR_175	Bambara	8	f	Diseased	2	2	TF	Negative	0
GAR_174	Bambara	8	m	Diseased	2	1	TF	Negative	0
GAR_173	Bambara	3	m	Diseased	2	1	TF	Negative	0
GAR_164	Bambara	6	m	Diseased	2	1	TF	Negative	0
GAR_155	Bambara	5	f	Diseased	2	1	TF	Negative	0
GAR_113	Bambara	5	m	Diseased	2	1	TF	Negative	0
GAR_112	Bambara	10	f	Diseased	2	1	TF	Negative	0
GAR_200	Wolof	3	m	Diseased	2	1	TF	Negative	0
GAR_198	Wolof	6	m	Diseased	2	1	TF	Negative	0
GAR_192	Wolof	13	f	Diseased	2	2	TF	Negative	0
GAR_189	Wolof	3	f	Diseased	2	1	TF	Negative	0
GAR_179	Wolof	4	f	Diseased	2	1	TF	Negative	0
GAR_147	Wolof	2	m	Diseased	2	1	TF	Negative	0
GAR_111	Wolof	8	f	Diseased	2	1	TF	Negative	0
GAR_137	Wolof	4	m	Diseased	2	1	TF	Positive	19
GAR_132	Wolof	9	m	Diseased	2	1	TF	Positive	134
GAR_130	Wolof	9	m	Diseased	2	2	TF	Positive	19291
GAR_125	Wolof	10	m	Diseased	2	1	TF	Positive	17171
GAR_124	Wolof	10	m	Diseased	2	1	TF	Positive	172
GAR_123	Wolof	10	m	Diseased	2	1	TF	Positive	76
GAR_120	Wolof	5	m	Diseased	2	1	TF	Positive	76
GAR_108	Wolof	3	f	Diseased	2	2	TF	Positive	134
GAR_100	Wolof	9	m	Diseased	2	2	TF	Positive	57
GAR_169	Bambara	3	m	Diseased	3	1	TF	Negative	0
GAR_197	Wolof	1	m	Diseased	3	1	TF	Negative	0
GAR_148	Wolof	3	m	Diseased	3	2	TF	Negative	0
GAR_102	Wolof	0.4	f	Diseased	3	3	TF/TI	Negative	0
GAR_101	Wolof	9	m	Diseased	3	1	TF	Negative	0
GAR_073	Fula	2	f	Diseased	3	0	TF	Positive	185270*
GAR_190	Wolof	4	f	Diseased	3	1	TF	Positive	19*
GAR_134	Wolof	9	m	Diseased	3	2	TF	Positive	11441
GAR_133	Wolof	9	m	Diseased	3	3	TF/TI	Positive	1184
GAR_128	Wolof	10	m	Diseased	3	2	TF	Positive	745
GAR_119	Wolof	9	m	Diseased	3	2	TF	Positive	115
GAR_118	Wolof	7	m	Diseased	3	3	TF/TI	Positive	4489*
GAR_117	Wolof	7	m	Diseased	3	2	TF	Positive	1471
GAR_106	Wolof	7	m	Diseased	3	3	TF/TI	Positive	6819
GAR_104	Wolof	12	f	Diseased	3	2	TF	Positive	458*
GAR_103	Wolof	8	m	Diseased	3	2	TF	Positive	1337
GAR_221	Bambara	4	m	Normal	0	1	--	Negative	0
GAR_220	Bambara	4	m	Normal	0	0	--	Negative	0
GAR_219	Bambara	1	m	Normal	0	0	--	Negative	0
GAR_217	Bambara	8	f	Normal	0	1	--	Negative	0
GAR_216	Bambara	10	f	Normal	0	1	--	Negative	0
GAR_213	Bambara	2	m	Normal	0	0	--	Negative	0
GAR_212	Bambara	2	m	Normal	0	1	--	Negative	0
GAR_211	Bambara	5	m	Normal	0	0	--	Negative	0
GAR_210	Bambara	7	f	Normal	0	0	--	Negative	0
GAR_209	Bambara	5	m	Normal	0	0	--	Negative	0
GAR_208	Bambara	4	f	Normal	0	1	--	Negative	0
GAR_207	Bambara	2	m	Normal	0	0	--	Negative	0
GAR_206	Bambara	6	f	Normal	0	0	--	Negative	0
GAR_218	Wolof	1	m	Normal	0	1	--	Negative	0
GAR_215	Wolof	8	m	Normal	0	1	--	Negative	0
GAR_214	Wolof	7	f	Normal	0	1	--	Negative	0
GAR_205	Wolof	4	f	Normal	0	0	--	Negative	0
GAR_204	Wolof	7	f	Normal	0	0	--	Negative	0
GAR_203	Wolof	4	m	Normal	0	1	--	Negative	0
GAR_202	Wolof	6	f	Normal	0	1	--	Negative	0

Supplementary Table S2. Clinical severity and association with ompA load and the proportion of Amplicor positive individuals

Follicular score	n	No. of Amplicor positive	ompA load (mean copies/swab)	Papillary score	n	No. of Amplicor positive	ompA load (mean copies/swab)
F0	20	0	0	P0	11	1	18527*
F1	0	-	-	P1	35	7	535
F2	24	9	1,485	P2	12	9	2,921
F3	16	11	14,223	P3	4	3	3,123

* a single participant without any signs of papillary hypertrophy was Amplicor positive with a high ompA load. This participant had a follicular score of F3

Supplementary Table S5a

	N v DI	N v D	D v DI
HG v U133 plus 2.0	r^2 =0.6048, p>0.0001 (n =8793)	r^2 =0.41, p>0.0001 (n =8793)	r^2 =0.1523, p>0.0001 (n =8793)
	Differentially regulated probe-sets (FC>1.625 or <0.615)		
HG v U133 plus 2.0	r^2 =0.8446, p>0.0001 (n=1184)	r^2 =0.8189, p>0.0001 (n=357)	r^2 =0.4272, p>0.0001 (n=285)

Supplementary Table S5b

Key genes which are differentially up-regulated (fold change of top 3 genes from the U133 plus 2.0 array matched with HG-focused target arrays)								
	N v DI			N v D			D v DI	
Gene	U133	HG	Gene	U133	HG	Gene	U133	HG
CXCL13	21.958	1.808	MS4A1	4.943	2.806	SPARCL1	4.249	1.243
S100A7	20.559	1.972	NOX1	4.902	2.128	ADH1C	4.091	2.906
CXCL11	15.741	5.407	CD19	3.833	3.115	NDST4	3.304	3.767

Supplementary Table S5c

Cluster number	Example genes that are differentially regulated (fold change of top genes from U133 plus 2.0 matched with HG-focused target arrays) for each cluster. Values are fold changes of group N v DI.		
	Gene	U133	HG
MCL1	BBOX1	0.115	0.345
MCL2	MMP12	7.725	4.077
MCL3	IL1B	6.740	3.249
MCL4	RRM2	3.366	4.104
MCL5	TRA2A	1.406	1.234
MCL6	SERPINB7	6.125	1.334
MCL7	TNFRSF17	4.896	1.688
MCL8	CXCL11	15.741	5.407
MCL9	MS4A1	8.126	3.801
MCL10	ISG15	2.295	1.934
MCL11-259	IL19	8.628	2.048
MCL260-577	MMP9	9.165	2.466

Supplementary Table S5d

	RTPCR	U133	HG	RTPCR	U133	HG
Gene	Disease only	Disease only	Disease only	Disease & Infection	Disease & Infection	Disease & Infection
IDO	1.08	2.726	1.889	7.93	4.099	2.469
IFNG	0.62	1.224	1.248	6.73	4.829	2.051
FOXP3	1.37	1.038	-	1.37	0.939	-
IL10	1.10	1.399	1.101	2.20	2.567	1.165
HPRT1	-	1.005	0.813	-	0.942	0.734

Data from previous qRTPCR studies in which children (n = 346) between the ages of 4-15 years were studied. Data are adapted from Faal et al (39) with the addition of infection diagnosis by Amplicor PCR rather than the expression of CT 16SrRNA. The series of HG-focused target arrays (GSE20430) consisted of 29 arrays in total. Twenty-five of these were from equivalent clinical and infection categories as those described for the U133 plus 2.0 arrays. These were Groups N (n = 8); Group D (n = 10) and Group DI (n = 7). The remaining 4 arrays in this series were from participants without the clinical signs of active trachoma but were positive by Amplicor PCR.