

Supplementary figure 1

Variation of immunofluorescent staining intensities at the membrane of basal keratinocytes. Membranes of basal keratinocytes were manually marked and the average grayscale value was measured on the indicated MELC pictures (x-axis). Each dot represents a single cell, the cross indicates the average of all cells and the box represents the upper and lower 25% quantile. As the variation in staining intensities of CD34, CD13 and membrane β-catenin is very low, these markers were excluded from subsequent analyses.

20f absolute [pixel]	black	red	violet	blue	brown	turquoise	orange	pink	yellow	green
black	22	32	197	191	100	38	216	193	191	179
red	67	81	134	118	96	84	132	157	147	144
violet	376	386	39	39	142	343	76	26	57	36
blue	214	228	28	38	68	209	35	26	46	29
brown	121	163	109	137	76	133	97	91	119	90
turquoise	35	47	126	115	80	51	104	130	119	154
orange	198	201	38	41	91	191	36	34	76	31
pink	558	539	105	106	248	523	156	59	151	90
yellow	271	325	58	65	132	250	100	86	46	84
green	362	371	44	58	135	329	74	40	72	47

27f absolute [pixel]	black	red	violet	blue	brown	turquoise	orange	pink	yellow	green
black	34	29	54	59	103	34	64	78	98	55
red	57	37	130	124	69	66	92	137	140	157
violet	170	142	138	87	193	146	103	88	123	103
blue	114	81	41	28	54	107	44	86	41	40
brown	732	445	483	323	402	623	408	502	193	419
turquoise	37	33	56	74	55	47	63	58	84	69
orange	68	62	33	41	27	58	30	58	47	49
pink	168	178	108	121	47	162	118	40	101	66
yellow	439	305	228	150	39	376	193	219	46	158
green	165	182	76	86	71	166	85	45	40	45

30f absolute [pixel]	black	red	violet	blue	brown	turquoise	orange	pink	yellow	green
black	34	93	193	123	112	76	98	189	152	152
red	63	91	72	64	68	68	74	40	72	66
violet	207	80	33	78	127	178	119	76	63	78
blue	59	33	27	24	58	66	39	18	35	24
brown	95	75	124	94	147	67	101	46	131	97
turquoise	31	34	57	49	27	34	43	16	59	35
orange	374	223	109	144	237	345	180	126	171	67
pink	359	180	146	173	190	249	204	126	185	108
yellow	149	121	70	92	120	110	112	80	37	83
green	318	168	84	108	183	267	134	67	141	39

60f absolute [pixel]	black	red	violet	blue	brown	turquoise	orange	pink	yellow	green
black	29	186	134	177	198	225	185	246	177	206
red	61	68	100	96	260	129	100	123	39	135
violet	293	195	103	76	68	62	78	60	64	63
blue	250	139	22	39	51	40	41	43	24	38
brown	1047	736	644	543	0	295	520	299	573	292
turquoise	53	98	112	93	319	160	91	130	165	186
orange	182	117	32	26	26	27	27	22	37	31
pink	339	248	130	123	79	59	123	33	185	83
yellow	435	209	144	142	297	156	151	147	37	164
green	391	222	77	78	26	58	74	49	92	66

64f absolute [pixel]	black	red	violet	blue	brown	turquoise	orange	pink	yellow	green
black	43	34	69	85	65	40	91	48	122	86
red	31	25	56	83	36	34	101	40	141	88
violet	90	75	32	53	30	79	54	68	80	38
blue	102	91	60	59	36	111	39	30	55	37
brown	416	344	280	227	253	428	254	218	314	221
turquoise	63	49	71	91	21	35	92	61	129	98
orange	77	66	52	21	35	99	23	36	27	22
pink	217	176	171	121	89	191	161	142	124	121
yellow	216	236	166	112	162	231	100	122	33	101
green	141	110	90	50	37	192	58	62	56	42

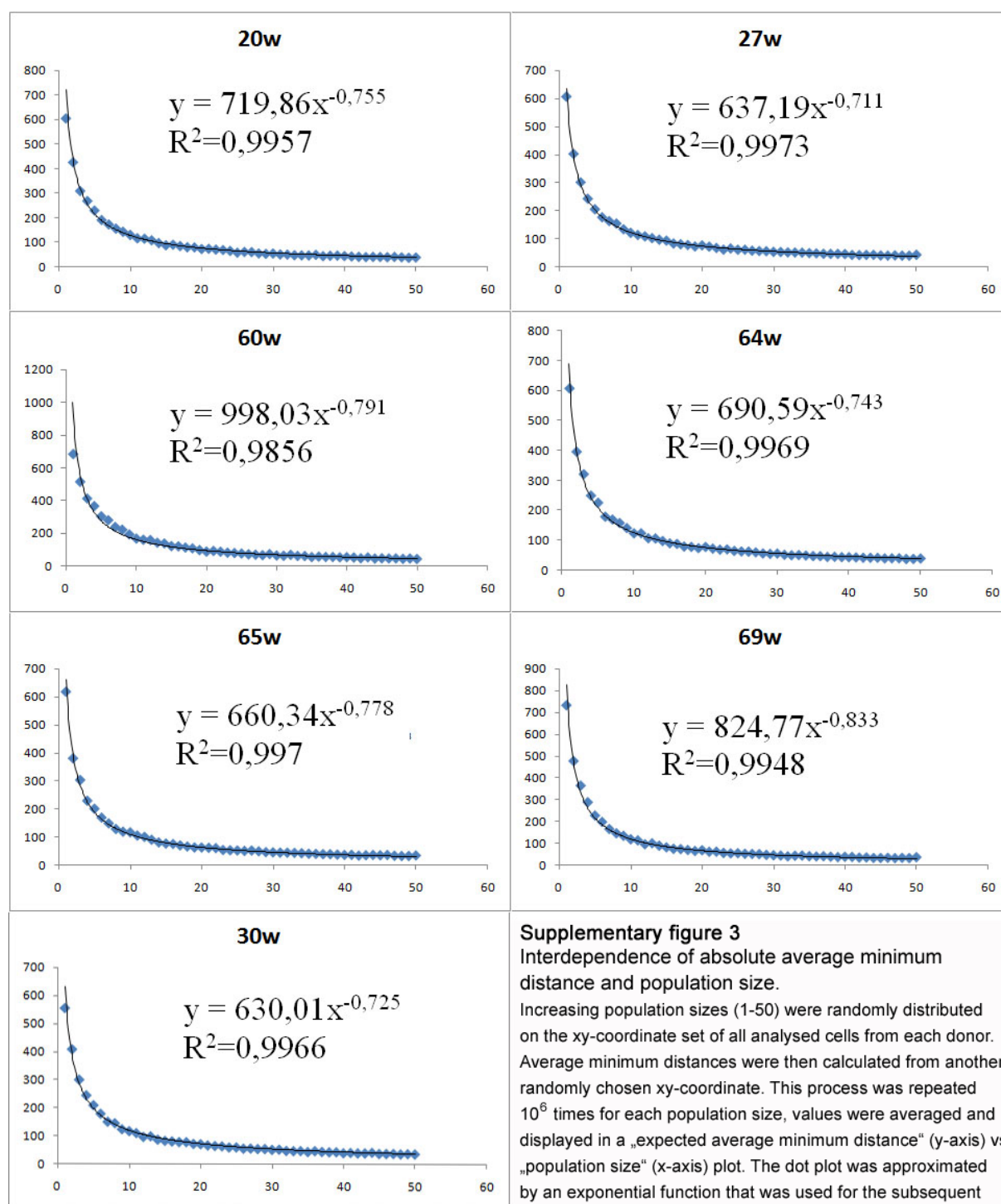
65f absolute [pixel]	black	red	violet	blue	brown	turquoise	orange	pink	yellow	green
black	20	38	90	105	97	70	192	159	110	215
red	65	100	149	181	70	90	165	201	104	175
violet	177	222	38	31	146	159	41	31	76	21
blue	173	168	29	29	65	141	30	30	57	35
brown	308	220	239	184	115	376	379	328	247	387
turquoise	25	21	42	46	16	21	25	32	27	33
orange	198	218	44	34	116	144	22	23	71	19
pink	262	328	47	62	261	220	37	59	133	40
yellow	110	90	50	41	53	108	36	37	52	39
green	302	313	150	134	207	234	77	90	141	179

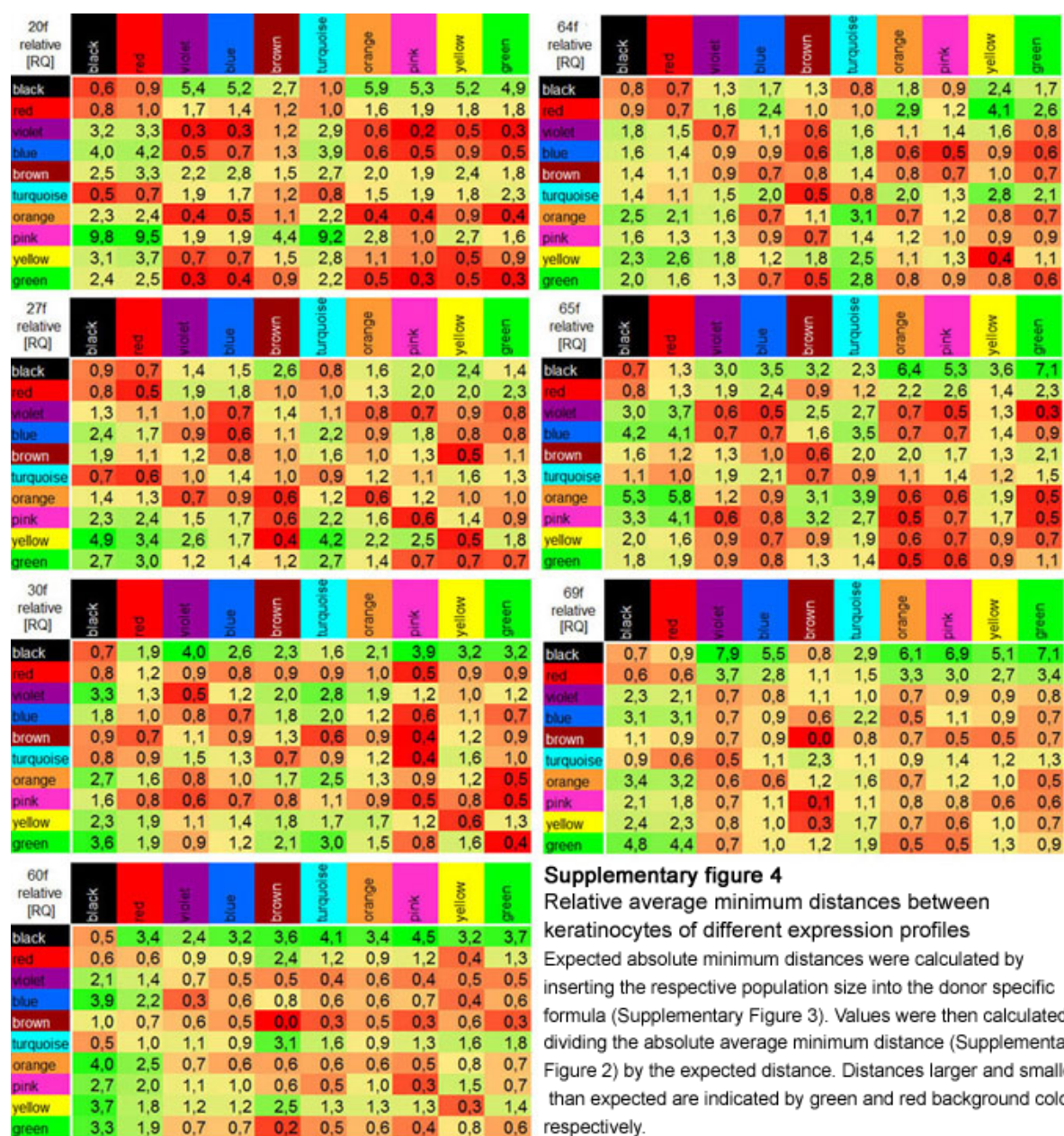
69f absolute [pixel]	black	red	violet	blue	brown	turquoise	orange	pink	yellow	green
black	31	39	354	247	35	130	273	307	231	320
red	46	50	290	221	85	114	259	232	211	264
violet	258	234	75	89	128	115	79	96	97	93
blue	346	349	80	102	72	244	61	122	101	76
brown	698	773	594	743	0	675	583	448	417	556
turquoise	56	36	30	69	143	67	59	88	74	82
orange	275	262	51	45	95	133	56	100	83	44
pink	449	385	158	232	20	243	173	172	128	123
yellow	184	178	61	78	22	133	58	45	80	56
green	223	203	31	45	53	88	22	23	58	41

Supplementary figure 2

Absolute average minimum distances between keratinocytes of different expression profiles.

For all basal cells on skin sections from seven donors, the shortest distance [pixel] to a cell of each of the ten color coded expression profiles was determined. Values were then averaged for all cells of a given population. Long and short distances are indicated by green and red background color respectively





STD (n=7)	black	red	violet	blue	brown	turquoise	orange	yellow	pink	green
black	0,17	0,70	0,65	0,48	0,43	0,64	0,56	0,33	0,50	0,57
red	0,17	0,34	0,52	0,44	0,45	0,18	0,50	0,65	0,49	0,41
violet	0,31	0,51	0,32	0,44	0,53	0,56	0,51	0,44	0,56	0,49
blue	0,36	0,51	0,30	0,18	0,42	0,47	0,30	0,34	0,57	0,18
brown	0,38	0,70	0,45	0,70	0,79	0,63	0,53	0,64	0,66	0,60
turquoise	0,37	0,23	0,37	0,29	0,72	0,28	0,30	0,32	0,36	0,30
orange	0,41	0,56	0,47	0,28	0,66	0,52	0,39	0,35	0,41	0,35
yellow	0,36	0,33	0,53	0,31	0,61	0,43	0,43	0,45	0,52	0,34
pink	0,88	0,96	0,44	0,38	1,09	1,15	0,61	0,51	0,40	0,49
green	0,35	0,40	0,41	0,39	0,57	0,43	0,53	0,41	0,37	0,41

Supplementary figure 5

Standard deviations of relative average minimum distances of seven donors.

Data were calculated from average minimum distance data of seven donors (Supplementary Figure 4).

Small and large variations are indicated by green and red background color respectively.