

Supplementary Table 1. Demographics and baseline values for 45 healthy participants (Groups A and B) and 15 with diabetic macular oedema (Group C).

	Group A			Group B			Group C		
	n	mean (SD)	range	n	mean (SD)	range	n	mean (SD)	range
Age (years)	21	22.52 (3.66)	18 - 30	24	56.96 (5.07)	50 - 68	15	56.07 (10.15)	32 - 74
Gender (m:f)	21	12:9		24	7:17		15	11:4	
PVT NL (number)	21	4.55 (4.57)	0 - 18	24	4.29 (5.21)	0 - 24	15	5.53 (5.97)	1 - 21
PVT RT (msec)	21	343.99 (46.78)	270.89 - 455.90	24	340.52 (46.78)	276.15 - 456.63	15	353.13 (43.88)	280.13 - 429.75
KSS (score)	21	3.43 (1.69)	1 - 7	24	2.42 (1.06)	1 - 5	15	2.93 (1.44)	1 - 7
PSQ (score)	21	2.62 (2.27)	0 - 8	24	3.58 (2.24)	1 - 9	15	4.33 (2.66)	1 - 11
CESD (score)	21	4.33 (3.77)	0 - 16	24	3.71 (4.28)	0 - 13	15	7.60 (6.14)	0 - 20
GHQ12 (score)	21	6.95 (2.65)	4 - 15	24	6.67 (2.20)	3 - 12	15	8.13 (2.61)	5 - 14
BCVA (letters)	21	90.67 (3.23)	85 - 96	24	89.50 (3.09)	83 - 95	15	86.47 (5.17)	79 - 94
CS (letters)	20 [§]	41.10 (1.74)	36 - 42	23 [§]	40.87 (1.91)	35 - 42	15	35.07 (3.33)	30 - 41
CCT protan (10 ⁻⁴ u'v')	21	57.43 (18.73)	22 - 95	23 [§]	64.17 (13.94)	40 - 86	15	145.80 (79.85)	42 - 353
CCT deutan (10 ⁻⁴ u'v')	21	51.38 (17.60)	26 - 97	23 [§]	65.48 (18.37)	39 - 122	15	132.27 (91.27)	55 - 411
CCT tritan (10 ⁻⁴ u'v')	21	64.43 (20.66)	33 - 106	23 [§]	82.70 (32.87)	29 - 158	15	213.60 (118.42)	34 - 488
mfERG amp 1 (μV)	20 [§]	66.40 (16.75)	36.10 - 108.00	24	66.16 (12.96)	44.90 - 99.50	15	51.07 (12.90)	26.70 - 70.10
mfERG lat 1 (msec)	20 [§]	35.64 (2.09)	31.50 - 40.20	24	36.29 (1.76)	33.40 - 40.20	15	38.23 (1.88)	35.40 - 41.30
EOG (ratio)	21	2.42 (0.49)	1.77 - 3.75	24	2.21 (0.39)	1.60 - 3.00	15	2.38 (0.58)	1.70 - 3.60
MP1 (dB)	19	19.59 (1.10)	15.60 - 21.00	23	19.32 (1.25)	15.40 - 20.00	15	14.08 (3.04)	6.60 - 17.80
OCT CST (μm)	21	277.33 (19.52)	238 - 319	24	282.71 (19.63)	254 - 319	15	316.27 (32.65)	274 - 389
OCT thickness in field of max pathology (μm)							15	362.87 (31.83)	327 - 439
BP systolic (mmHg) ^							13	132.38 (13.82)	110 - 162
BP diastolic (mmHg) ^							13	78.85 (10.49)	60 - 94
HbA1c (mmol/mol) ^							14	66.37 (23.26)	39 - 114
Cholesterol (mmol/L) ^							14	4.7 (0.96)	3.1 - 6.3
eGFR ^							13	72.31 (19.89)	36 - 90

§ one participant in each group was unable to perform some procedures; ^ measured at screening visit

Legend: BCVA = best corrected visual acuity; CCT = Cambridge color vision test; CESD = The Centre for Epidemiologic Studies Depression scale; CS = contrast sensitivity; EOG = electro-oculogram; GHQ12 = General Health Questionnaire; KSS = Karolinska Sleep Scale; mfERG = multifocal electroretinogram; MP1 = microperimetry; OCT CST = optical coherence tomography central subfield thickness; PSQ = Pittsburgh Sleep Quality Index; PVT NL = Psychomotor Vigilance Task number of lapses; PVT RT = Psychomotor Vigilance Task response time

Supplementary Table 2: Specified adverse events reported by 55 participants who completed at least 1 month of follow-up shown by participant and event.

	Group A (n=20)		Group B (n=20)		Group C (n=15)	
	partici pants	events	partici pants	events	particip ants	events
Totals	15	41	15	64	6	9
Ocular						
Red eyes	0	0	2	3	0	0
Eye soreness	2	2	3	6	0	0
Eye pain	1	1	1	1	0	0
Eyelid swelling	1	1	3	4	0	0
Pressure signs from mask	0	0	1	1	0	0
'Heavy eyelids'	0	0	1	1	0	0
Itchy eyes	1	1	2	2	1	1
Dry eyes	0	0	2	5	1	1
Watery eyes	1	1	1	1	0	0
Loss of eyelashes	0	0	1	1	0	0
Double vision	0	0	1	1	0	0
Blurred vision	1	1	0	0	0	0
Photophobia	1	1	0	0	0	0

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Corneal foreign body	0	0	1	1	0	0
<u>Mask related adverse events</u>						
General mask discomfort	3	3	2	2	0	0
Soreness around ears	2	3	1	2	0	0
Ear pain	2	3	0	0	0	0
Mask digging into bridge of the nose	1	1	3	5	0	0
Mask pressing on eye socket	1	1	1	1	0	0
Mask too hot on face	4	6	1	3	0	0
Due to light brightness	2	3	1	1	0	0
Rubbing of the mask Velcro	1	2	2	2	0	0
Straps rubbing the ears	1	2	1	1	0	0
Label at the back of the mask strap	0	0	1	1	0	0
Pressure on temporal area	1	1	0	0	0	0
Pressure on eyes	1	1	0	0	0	0
<u>Sleep disturbance</u>						
Change in sleep pattern	0	0	1	1	2	2
Due to mask slipping off	1	1	1	1	0	0
<u>Other</u>						
Myocardial infarction	0	0	0	0	1	1
Angina	0	0	0	0	1	1
Pneumonia	0	0	1	1	0	0

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Viral respiratory infection	0	0	1	1	0	0
Skin rash on the cheeks (associated with viral respiratory infection)	0	0	1	1	0	0
Gastroenteritis	0	0	1	1	1	1
Back pain	0	0	1	1	0	0
Migraine	3	4	0	0	1	1
Headaches	1	1	2	2	0	0
Dental pain (after tooth extraction)	1	1	0	0	0	0
Nausea after electrodiagnostic tests	0	0	1	3	0	0
Nausea during microperimetry test	0	0	1	1	0	0
Tiredness	0	0	4	6	0	0

Supplementary Table 3 Number of lapses (NL) on psychomotor vigilance task tests for participants crossing abnormal criteria during the study. Abnormal values are underlined.

identifier	age	NL upper limit	baseline	month 1	month 2	month 3	month 4
7	66	31	7	17	31	<u>40</u>	<u>39</u>
13	20	17	1	0	12	4	<u>23</u>
15	21	17	14	<u>30</u>	<u>21</u>	<u>24</u>	<u>30</u>
45	60	26	8	20	25	18	<u>27</u>
49	19	17	18	9	16	<u>27</u>	<u>37</u>
72	53	26	9	19	<u>28</u>		
94	61	26	21	14	11	21	<u>27</u>

Supplementary Table 4 Response time (RT) on psychomotor vigilance task tests for participants crossing the abnormal criterion during the study. Abnormal values are underlined.

identifier	age	RT upper limit	baseline	month 1	month 2	month 3	month 4
7	66	460	389	432	<u>470</u>	<u>491</u>	<u>485</u>
13	20	460	317	333	416	367	420
15	21	460	406	454	434	435	453
45	60	460	391	433	441	445	<u>466</u>
49	19	460	418	339	411	442	<u>478</u>
72	53	460	409	446	459		
75	52	460	430	441	<u>463</u>	436	423