Retinal pigment epithelium in human donor eyes contains higher levels of bisretinoids including A2E in periphery than macula

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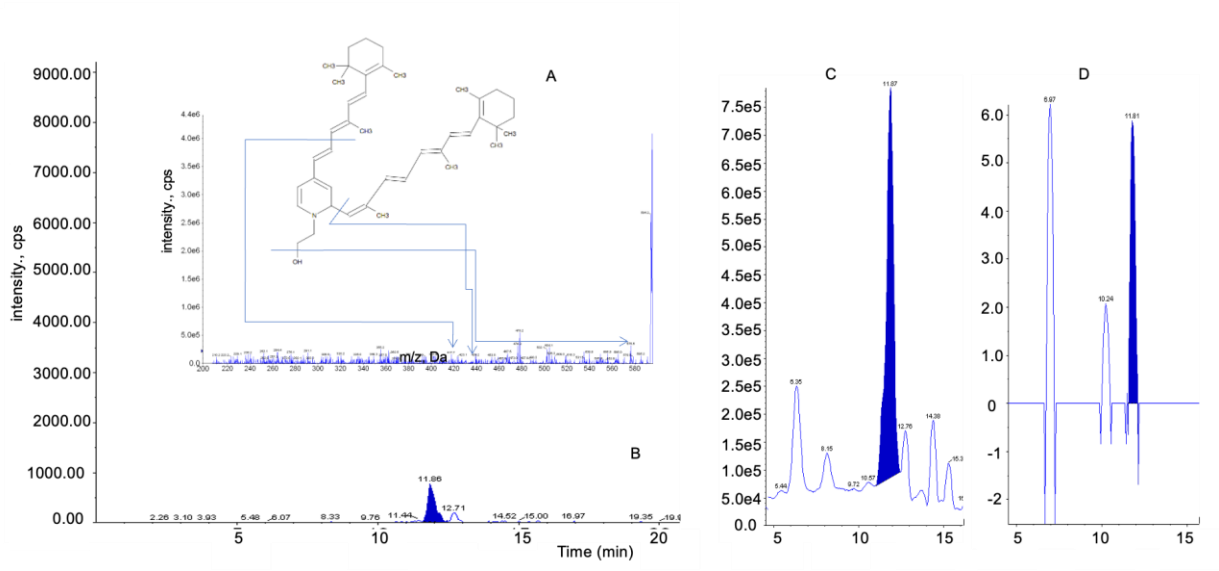
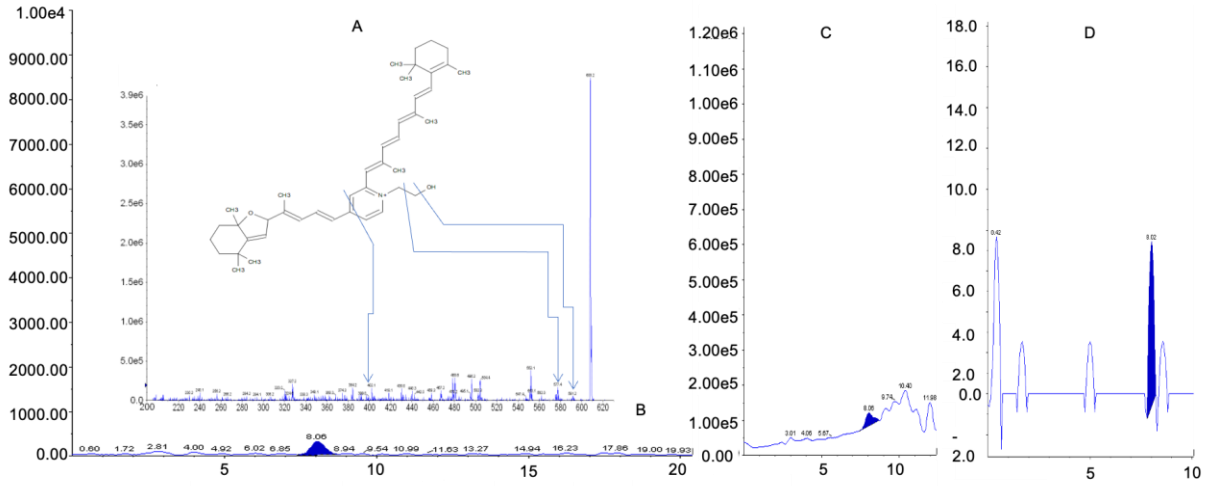
Supplemental Information



Supplemental Figure 1. A) Shows the fragmentation pattern for A2DHPE at [M+H]+ 594.4, B) representative peak from ESI-MRM mode of A2DHPE at [M+H]+ 594.4/576.5, C) representative chromatogram from ESI-SIM mode of quantification [M+H]+ 594.4, D) APCI-MRM chromatogram for A2DHPE at [M+H]+ 594.4/576.5.



Supplemental Figure 2. A) Shows the fragmentation pattern for MFA2E at [M] 608.2, B) representative peak from ESI-MRM mode of MFA2E at [M] 608.2/ 591.2, C) representative chromatogram from ESI-SIM mode of quantification at [M] 608.2, D) APCI-MRM chromatogram for MFA2E at [M] 608.2/ 591.2 .

Supplemental Table 1: Macula vs peripheral retina comparison of bisretinoids (measured as EEEQ)

Variable	Level	N	Median (IQR)	*p* (KW)
A2E	P	252	0.27 (0.13, 0.63)	< 0.0001
	M	241	0.05 (0.03, 0.09)	
A2GPE	P	251	2.10 (1.44, 3.12)	< 0.0001
	M	238	0.35 (0.24, 0.49)	
A2DHPE	P	254	0.43 (0.21, 1.08)	< 0.0001
	M	240	0.05 (0.03, 0.10)	
Monofuran-A2E	P	253	2.30 (1.37, 3.58)	< 0.0001
	M	240	0.29 (0.14, 0.57)	

periphery; M, macula; IQR, interquartile range; KW, Kruskall-Wallis

Supplemental Table 2: Levels of bisretinoids (measured as EEEQ), in two age groups

Bisretinoid	Overall		<60 years		≥60 years	
	N	Median (IQR)	N	Median (IQR)	N	Median (IQR)
A2E	234	5.0 (2.7, 10.2)	124	3.8 (2.2, 6.8)	110	7.5 (3.6, 16.5)
A2GPE	230	5.9 (3.5, 9.2)	120	4.8 (3.0, 7.5)	110	7.1 (4.5, 10.7)
A2DHPE	233	8.3 (4.5, 16.6)	122	6.4 (3.6, 10.7)	111	12.0 (6.1, 27.5)
Monofuran-A2E	233	8.8 (3.6, 17.5)	123	8.0 (2.4, 21.0)	110	9.6 (5.2, 14.4)
IQR, interquartile range						

Supplemental Table 3: Left eye vs right eye levels of bisretinoids (measured as EEEQ)

Variable Eye	Level	N	Median (IQR)	*p* (KW)
A2E	LE	228	0.12 (0.05, 0.30)	0.5888
	RE	265	0.11 (0.04, 0.30)	
A2GPE	LE	225	0.79 (0.36, 2.14)	0.6621
	RE	264	0.85 (0.34, 2.17)	
A2DHPE	LE	228	0.16 (0.05, 0.47)	0.6150
	RE	266	0.15 (0.05, 0.44)	
monofuran-A2E	LE	227	0.90 (0.33, 2.27)	0.9805
	RE	266	0.97 (0.28, 2.61)	

LE, left eye; RE, right eye; IQR, interquartile range; KW, Kruskall-Wallis

Supplemental Table 4: Male vs Female comparison of bisretinoids (measured as EEEQ)

Variable Sex	Level	N	Median (IQR)	*p* (KW)
A2E	M	280	0.11 (0.05, 0.27)	0.0540
	F	213	0.14 (0.05, 0.38)	
A2GPE	M	278	0.82 (0.35, 2.13)	0.8826
	F	211	0.82 (0.35, 2.20)	
A2DHPE	M	279	0.14 (0.05, 0.39)	0.0709
	F	215	0.20 (0.05, 0.56)	
monofuran-A2E	M	277	0.89 (0.31, 2.39)	0.5221
	F	216	1.13 (0.29, 2.53)	
M, Male; F, Female; IQR, interquartile range; KW, Kruskall-Wallis				