

Supplementary Online Content

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eTable 1. Repeated-Measures Longitudinal Regression of Log_e Cone ERG
Amplitude to 30-Hz Flashes on Model 2 Variables

eTable 2. Repeated-Measures Longitudinal Regression of Log_e Visual Field Area
on Model 3 Variables

eTable 3. Repeated-Measures Longitudinal Regression of Log_e Visual Acuity on
Model 3 Variables

This supplementary material has been provided by the authors to give readers
additional information about their work.

eTable 1

**Repeated-measures Longitudinal Regression
of Log_e Cone ERG Amplitude to 30-Hz Flashes on Model 2 Variables**

Effect	Genetic Type	Eye	Estimate	Standard Error	95% Confidence Interval	DF	t Value	Pr > |t|
Intercept ^a			2.1104	0.2394	1.6334, 2.5874	75	8.81	<.0001
Time ^{a,b}			-0.1269	0.0364	-0.1984, -0.0554	385	-3.49	0.0005
Vitamin A			0.0454	0.2037	-0.3604, 0.4513	75	0.22	0.8241
Eye		OD	-0.0113	0.0544	-0.1198, 0.0972	67	-0.21	0.8358
Eye		OS	0	.	.	.	.	.
Genetic Type	Recessive		-0.5466	0.2463	-1.0372, -0.0561	75	-2.22	0.0295
Genetic Type	X-linked		-1.0972	0.2751	-1.6452, -0.5492	75	-3.99	0.0002
Genetic Type	Unknown		-0.1401	0.2912	-0.7201, 0.4400	75	-0.48	0.6318
Genetic Type	Dominant		0	.	.	.	.	.
Baseline Implicit Time ^b			-0.0700	0.0158	-0.1010, -0.0390	385	-4.44	<.0001
Time ^b x Vitamin A			0.0771	0.0295	0.0191, 0.1350	385	2.61	0.0093
Time ^b x Eye		OD	0.0037	0.0075	-0.0109, 0.0183	385	0.50	0.6162
Time ^b x Eye		OS	0	.	.	.	.	.
Time ^b x Genetic Type	Recessive		-0.0027	0.03848	-0.0784, 0.0729	385	-0.07	0.9436
Time ^b x Genetic Type	X-linked		-0.0716	0.0390	-0.1483, 0.0051	385	-1.84	0.0672
Time ^b x Genetic Type	Unknown		-0.0124	0.0435	-0.0979, 0.0731	385	-0.29	0.7754
Time ^b x Genetic Type	Dominant		0	.	.	.	.	.
Time ^b x Baseline Implicit Time ^b			-0.0112	0.0024	-0.0159, -0.0066	385	-4.75	<.0001
Time ^b x Log _e Baseline Amplitude ^b			-0.0370	0.0096	-0.0560, -0.0181	385	-3.84	0.0001

^aThe reference categories are Dominant for Genetic Type and OS for Eye. Therefore, the results for Intercept and Time apply to the left eye of patients with dominant disease.

^bMean-centered.

Type 3 Tests for Repeated-measures Longitudinal Regression of Log_e Cone ERG Amplitude to 30-Hz Flashes on Model 2 Variables

Effect	Num DF	Den DF	F Value	Pr > F
Time ^a	1	385	35.08	<.0001
Vitamin A	1	75	0.05	0.8241
Eye	1	67	0.04	0.8358
Genetic Type	3	75	6.27	0.0007
Baseline Implicit Time ^a	1	385	19.70	<.0001
Time ^a x Vitamin A	1	385	6.83	0.0093
Time ^a x Eye	1	385	0.25	0.6162
Time ^a x Genetic Type	3	385	2.00	0.1136
Time ^a x Baseline Implicit Time ^a	1	385	22.55	<.0001
Time ^a x Log _e Baseline Amplitude ^a	1	385	14.73	0.0001

^aMean-centered

eTable 2

**Repeated-measures Longitudinal Regression
of Log_e Visual Field Area on Model 3 Variables**

Effect	Genetic Type	Eye	Estimate	Standard Error	95% Confidence Interval	DF	t Value	Pr > |t|
Intercept ^a			8.9947	0.1503	8.6949, 9.2946	69	59.85	<.0001
Time ^{a,b}			0.01040	0.03796	-0.06422, 0.08502	419	0.27	0.7843
Vitamin A			0.1803	0.1265	-0.07211, 0.4327	69	1.43	0.1587
Eye		OD	0.002831	0.01883	-0.03470, 0.04037	73	0.15	0.8809
Eye		OS	0	.	.	.	.	.
Genetic Type	Recessive		-0.01272	0.1526	-0.3172, 0.2917	69	-0.08	0.9338
Genetic Type	X-linked		0.1456	0.1757	-0.2048, 0.4961	69	0.83	0.4100
Genetic Type	Unknown		-0.08092	0.1800	-0.4399, 0.2781	69	-0.45	0.6544
Genetic Type	Dominant		0	.	.	.	.	.
Time ^b x Vitamin A			0.003697	0.03064	-0.05653, 0.06392	419	0.12	0.9040
Time ^b x Eye		OD	0.004174	0.004309	-0.00429, 0.0126	419	0.97	0.3332
Time ^b x Eye		OS	0	.	.	.	.	.
Time ^b x Genetic Type	Recessive		0.000539	0.03754	-0.07325, 0.07433	419	0.01	0.9886
Time ^b x Genetic Type	X-linked		-0.02219	0.04387	-0.1084, 0.06405	419	-0.51	0.6133
Time ^b x Genetic Type	Unknown		0.03670	0.04302	-0.04787, 0.1213	419	0.85	0.3941
Time ^b x Genetic Type	Dominant		0	.	.	.	.	.

^aThe reference categories are Dominant for Genetic Type and OS for Eye. Therefore, the results for Intercept and Time apply to the left eye of patients with dominant disease.

^bMean-centered.

**Type 3 Tests for Repeated-measures Longitudinal Regression
of Log_e Visual Field Area on Model 3 Variables**

Effect	Num DF	Den DF	F Value	Pr > F
Time ^a	1	419	0.41	0.5229
Vitamin A	1	69	2.03	0.1587
Eye	1	73	0.02	0.8809

Genetic Type	3	69	0.56	0.6465
Time ^a x Vitamin A	1	419	0.01	0.9040
Time ^a x Eye	1	419	0.94	0.3332
Time ^a x Genetic Type	3	419	0.68	0.5672

^aMean-centered

eTable 3**Repeated-measures Longitudinal Regression of Log_e Visual Acuity on Model 3 Variables**

Effect	Genetic Type	Eye	Estimate	Standard Error	95% Confidence Interval	DF	t Value	Pr > |t|
Intercept ^a			-0.5704	0.0860	-0.7423, -0.3986	64	-6.63	<.0001
Time ^{a,b}			-0.0017	0.0241	-0.0491, 0.0458	316	-0.07	0.9452
Vitamin A			0.1270	0.0714	-0.0157, 0.2696	64	1.78	0.0801
Eye		OD	0.0777	0.0345	0.0085, 0.1468	53	2.25	0.0284
Eye		OS	0	.	.	.	.	.
Genetic Type	Recessive		-0.0849	0.0905	-0.2657, 0.0960	64	-0.94	0.3520
Genetic Type	X-linked		-0.1243	0.0976	-0.3193, 0.0708	64	-1.27	0.2076
Genetic Type	Unknown		-0.1851	0.1033	-0.3913, 0.0212	64	-1.79	0.0778
Genetic Type	Dominant		0	.	.	.	.	.
Time ^b x Vitamin A			0.0124	0.0185	-0.0239, 0.0487	316	0.67	0.5016
Time ^b x Eye		OD	0.0052	0.0080	-0.0106, 0.0209	316	0.65	0.5192
Time ^b x Eye		OS	0	.	.	.	.	.
Time ^b x Genetic Type	Recessive		-0.0087	0.0251	-0.0582, 0.0407	316	-0.35	0.7286
Time ^b x Genetic Type	X-linked		0.0023	0.0249	-0.0468, 0.0513	316	0.09	0.9276
Time ^b x Genetic Type	Unknown		0.0158	0.0273	-0.0378, 0.0695	316	0.58	0.5619
Time ^b x Genetic Type	Dominant		0	.	.	.	.	.

^aThe reference categories are Dominant for Genetic Type and OS for Eye. Therefore, the results for Intercept and Time apply to the left eye of patients with dominant disease.

^bMean-centered.

**Type 3 Tests for Repeated-measures Longitudinal Regression of Log_e
Visual Acuity on Model 3 Variables**

Effect	Num DF	Den DF	F Value	Pr > F
Time ^a	1	316	0.04	0.8355
Vitamin A	1	64	3.16	0.0801
Eye	1	53	5.08	0.0284
Genetic Type	3	64	1.17	0.3286
Time ^a x Vitamin A	1	316	0.45	0.5016
Time ^a x Eye	1	316	0.42	0.5192
Time ^a x Genetic Type	3	316	0.52	0.6656

^aMean-centered