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*Supplement of*

## **Feasibility of intravitreal injections and ophthalmic safety assessment in marmoset (*Callithrix jacchus*) monkeys**

**Birgit Korbmacher et al.**

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Table  
Individual Electroretinogram

Test Item (dosage)		1 2											
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10	20										
Phase		Predose 1											
		Scotopic Measurement - b-Wave White Flash Rod Response - Amplitude (µV)											
		L e f t E y e					R i g h t E y e						
Group/Animal		9.5	30	95	300	950	3000	9.5	30	95	300	950	3000
Sex	Number	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )	(mcds/m <sup>2</sup> )
1/M	45366M	b	b	b	b	b	b	25.7	34.5	75.2	134.0	175.0	215.0
	45427M	b	b	b	b	b	b	42.0	44.6	102.0	134.0	206.0	184.0
	45504M	b	b	b	b	b	b	90.2	110.0	143.0	234.0	316.0	323.0
	Mean	-	-	-	-	-	-	52.6	63.0	106.7	167.3	232.3	240.7
	SD	-	-	-	-	-	-	33.5	41.0	34.1	57.7	74.1	73.0
	N	-	-	-	-	-	-	3	3	3	3	3	3
2/M	42737M	b	b	b	b	b	b	38.4	47.5	94.1	118.0	188.0	209.0
	45370M	b	b	b	b	b	b	48.8	73.6	76.8	135.0	163.0	218.0
	45500M	b	b	b	b	b	b	33.2	42.3	67.7	97.7	155.0	169.0
	Mean	-	-	-	-	-	-	40.1	54.5	79.5	116.9	168.7	198.7
	SD	-	-	-	-	-	-	7.9	16.8	13.4	18.7	17.2	26.1
	N	-	-	-	-	-	-	3	3	3	3	3	3

b = Not taken due to maximum sedation time was over





Table  
Individual Electroretinogram

Test Item (dosage)		1 2											
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10	20										
Phase		Predose 1											
		Scotopic Measurement - b-Wave White Flash Rod Response - Peak Latency (ms)											
		L e f t E y e					R i g h t E y e						
Group	Animal	9.5	30	95	300	950	3000	9.5	30	95	300	950	3000
Sex	Number	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )	(mcDs/m <sup>2</sup> )
1/M	45366M	b	b	b	b	b	b	70.3	55.5	34.3	32.8	30.5	29.8
	45427M	b	b	b	b	b	b	57.3	44.3	34.3	32.8	33.0	31.5
	45504M	b	b	b	b	b	b	54.0	41.0	38.8	33.8	34.3	35.3
	Mean	-	-	-	-	-	-	60.5	46.9	35.8	33.1	32.6	32.2
	SD	-	-	-	-	-	-	8.6	7.6	2.6	0.6	1.9	2.8
	N	-	-	-	-	-	-	3	3	3	3	3	3
2/M	42737M	b	b	b	b	b	b	56.5	47.5	35.5	33.0	33.5	34.3
	45370M	b	b	b	b	b	b	79.0	59.5	38.8	32.3	30.5	30.3
	45500M	b	b	b	b	b	b	64.3	49.3	40.5	35.8	35.0	35.8
	Mean	-	-	-	-	-	-	66.6	52.1	38.3	33.7	33.0	33.5
	SD	-	-	-	-	-	-	11.4	6.5	2.5	1.9	2.3	2.8
	N	-	-	-	-	-	-	3	3	3	3	3	3

b = Not taken due to maximum sedation time was over





Table  
Individual Electroretinogram

Test Item (dosage)		1		2					
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10		20					
Phase		Predose 1				Predose 2			
		Scotopic Measurement - a-Wave White Flash Rod Response (3000 mcDs/m <sup>2</sup> )							
Group/Animal		Amplitude (µV)		Peak Latency (ms)		Amplitude (µV)		Peak Latency (ms)	
Sex	Number	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	b	121.0	b	13.5	98.6	118.0	14.5	14.3
	45427M	b	132.0	b	13.8	117.0	118.0	16.0	15.0
	45504M	b	177.0	b	13.5	180.0	134.0	14.5	14.5
	Mean	-	143.3	-	13.6	131.9	123.3	15.0	14.6
	SD	-	29.7	-	0.2	42.7	9.2	0.9	0.4
	N	-	3	-	3	3	3	3	3
	2/M	42737M	b	123.0	b	13.8	139.0	128.0	14.0
	45370M	b	199.0	b	14.0	148.0	114.0	16.3	19.5
	45500M	b	104.0	b	14.8	118.0	122.0	14.5	14.8
	Mean	-	142.0	-	14.2	135.0	121.3	14.9	16.0
	SD	-	50.3	-	0.5	15.4	7.0	1.2	3.0
	N	-	3	-	3	3	3	3	3

b = Not taken due to maximum sedation time was over



Table  
Individual Electroretinogram

Test Item (dosage)		1	2		
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10	20		
Phase		Dosing Week 6			
Scotopic Measurement - a-Wave White Flash Rod Response (3000 mcDs/m <sup>2</sup> )					
Group/Animal		Amplitude (µV)		Peak Latency (ms)	
Sex	Number	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	93.8	117.0	15.3	15.0
	45427M	159.0	149.0	14.3	14.0
	45504M	60.2	124.0	15.0	14.3
	Mean	104.3	130.0	14.9	14.4
	SD	50.2	16.8	0.5	0.5
	N	3	3	3	3
2/M	42737M	157.0	170.0	14.3	14.5
	45370M	180.0	178.0	16.3	16.0
	45500M	119.0	66.1	15.5	15.5
	Mean	152.0	138.0	15.4	15.3
	SD	30.8	62.4	1.0	0.8
	N	3	3	3	3

Table  
Individual Electroretinogram

Test Item		(dosage)		1	2				
μL/both eyes		bi-weekly (days 1, 15, 29 and 43)		10	20				
Phase		Predose 1				Predose 2			
		Scotopic Measurement - Oscillatory Potentials (3000 mcDs/m <sup>2</sup> )							
Group/Animal		Amplitude (μV)				Amplitude (μV)			
		Peak Latency (ms)				Peak Latency (ms)			
Sex	Number	Left	Right	Left	Right	Left	Right	Left	Right
		Eye	Eye	Eye	Eye	Eye	Eye	Eye	Eye
1/M	45366M	b	12.3	b	22.0	4.6	9.8	22.8	22.9
	45427M	b	23.4	b	22.2	9.6	9.3	26.3	24.7
	45504M	b	39.7	b	22.9	25.2	28.0	24.1	24.3
	Mean	-	25.1	-	22.4	13.1	15.7	24.4	24.0
	SD	-	13.8	-	0.5	10.8	10.6	1.8	0.9
	N	-	3	-	3	3	3	3	3
2/M	42737M	b	13.9	b	22.7	24.3	21.6	22.5	22.3
	45370M	b	18.7	b	22.7	16.6	17.2	20.8	23.6
	45500M	b	11.8	b	27.5	8.8	7.9	23.9	24.0
	Mean	-	14.8	-	24.3	16.6	15.6	22.4	23.3
	SD	-	3.5	-	2.8	7.7	7.0	1.6	0.9
	N	-	3	-	3	3	3	3	3

b = Not taken due to maximum sedation time was over

Table  
Individual Electroretinogram

Test Item		(dosage)		1	2
μL/both eyes bi-weekly (days 1, 15, 29 and 43)				10	20
Phase		Dosing Week 6			
		Scotopic Measurement - Oscillatory Potentials (3000 mcDs/m <sup>2</sup> )			
Group/Animal		Amplitude (μV)		Peak Latency (ms)	
Sex	Number	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	9.0	12.8	27.7	28.7
	45427M	15.2	13.3	22.9	23.0
	45504M	13.7	28.9	26.4	25.3
	Mean	12.6	18.3	25.7	25.7
	SD	3.2	9.2	2.5	2.9
	N	3	3	3	3
	2/M	42737M	22.9	24.7	25.5
	45370M	23.4	16.0	29.1	28.6
	45500M	14.1	8.4	27.8	26.8
	Mean	20.1	16.4	27.5	26.8
	SD	5.2	8.2	1.8	1.8
	N	3	3	3	3

Table  
Individual Electroretinogram

Test Item (dosage)		1		2					
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10		20					
Phase		Predose 1				Predose 2			
		Photopic Measurement - Flicker (30 Hz) - Amplitude (µV)							
		0 min		10 min		0 min		10 min	
Group/Animal	Sex Number	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	b	118.0	b	167.0	93.3	112.0	107.0	146.0
	45427M	b	109.0	b	155.0	68.2	109.0	119.0	149.0
	45504M	b	183.0	b	223.0	190.0	151.0	176.0	140.0
	Mean	-	136.7	-	181.7	117.2	124.0	134.0	145.0
	SD	-	40.4	-	36.3	64.3	23.4	36.9	4.6
	N	-	3	-	3	3	3	3	3
2/M	42737M	b	134.0	b	172.0	205.0	193.0	238.0	219.0
	45370M	b	134.0	b	192.0	111.0	75.4	122.0	86.4
	45500M	b	97.0	b	110.0	113.0	113.0	88.1	115.0
	Mean	-	121.7	-	158.0	143.0	127.1	149.4	140.1
	SD	-	21.4	-	42.8	53.7	60.1	78.6	69.8
	N	-	3	-	3	3	3	3	3

b = Not taken due to maximum sedation time was over

Table  
Individual Electroretinogram

Test Item (dosage)		1		2	
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10		20	
Dosing Week 6					
Photopic Measurement - Flicker (30 Hz) - Amplitude (µV)					
Group/Animal Sex	Number	0 min		10 min	
		Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	72.3	98.3	97.8	135.0
	45427M	118.0	126.0	158.0	173.0
	45504M	91.6	139.0	207.0	181.0
	Mean	94.0	121.1	154.3	163.0
	SD	22.9	20.8	54.7	24.6
	N	3	3	3	3
2/M	42737M	156.0	169.0	186.0	225.0
	45370M	111.0	104.0	120.0	123.0
	45500M	95.1	58.1	75.8	50.0
	Mean	120.7	110.4	127.3	132.7
	SD	31.6	55.7	55.5	87.9
	N	3	3	3	3

Table  
Individual Electroretinogram

Test Item (dosage)		1		2					
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10		20					
Phase		Predose 1				Predose 2			
		Photopic Measurement - Flicker (30 Hz) - Peak Latency (ms)							
		0 min		10 min		0 min		10 min	
Group/Animal	Sex Number	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	-	56.4	-	57.0	57.4	57.4	57.4	57.4
	45427M	-	57.0	-	58.8	59.0	58.0	58.0	58.0
	45504M	-	57.4	-	57.4	57.8	58.0	58.0	58.4
	Mean	-	56.9	-	57.7	58.1	57.8	57.8	57.9
	SD	-	0.5	-	0.9	0.8	0.3	0.3	0.5
	N	-	3	-	3	3	3	3	3
2/M	42737M	-	58.2	-	57.6	56.6	56.4	56.4	56.2
	45370M	-	57.4	-	57.4	59.6	60.0	60.0	59.4
	45500M	-	57.8	-	58.4	58.0	58.0	58.0	58.0
	Mean	-	57.8	-	57.8	58.1	58.1	58.1	57.9
	SD	-	0.4	-	0.5	1.5	1.8	1.8	1.6
	N	-	3	-	3	3	3	3	3

Table  
Individual Electroretinogram

Test Item (dosage)		1		2		
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10		20		
Dosing Week 6						
Photopic Measurement - Flicker (30 Hz) - Peak Latency (ms)						
Group/Animal	Sex	Number	0 min		10 min	
			Left Eye	Right Eye	Left Eye	Right Eye
1/M		45366M	58.6	58.6	59.0	59.0
		45427M	58.2	58.2	58.0	58.0
		45504M	58.2	58.6	57.8	57.6
		Mean	58.3	58.5	58.3	58.2
		SD	0.2	0.2	0.6	0.7
		N	3	3	3	3
	2/M		42737M	57.6	57.6	57.2
45370M			60.0	59.8	60.6	60.8
45500M			59.4	59.4	59.8	59.4
		Mean	59.0	58.9	59.2	59.0
		SD	1.2	1.2	1.8	2.0
		N	3	3	3	3

Table  
Individual Electroretinogram

Test Item		(dosage)		1	2				
μL/both eyes bi-weekly (days 1, 15, 29 and 43)				10	20				
Phase		Predose 1				Predose 2			
		Photopic Measurement - b-Wave Red Flash Cone Response - Amplitude (μV)							
		Left Eye		Right Eye		Left Eye		Right Eye	
Group/Animal		300	950	300	950	300	950	300	950
Sex	Number	(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )	
1/M	45366M	b	b	49.0	110.0	22.9	86.3	35.0	111.0
	45427M	b	b	74.5	101.0	42.5	91.1	44.6	115.0
	45504M	b	b	110.0	173.0	53.5	172.0	61.4	121.0
	Mean	-	-	77.8	128.0	39.6	116.5	47.0	115.7
	SD	-	-	30.6	39.2	15.5	48.2	13.4	5.0
	N	-	-	3	3	3	3	3	3
2/M	42737M	b	b	37.8	110.0	38.2	143.0	31.4	125.0
	45370M	b	b	60.5	123.0	28.0	113.0	13.7	86.9
	45500M	b	b	23.8	82.7	16.3	73.9	24.4	91.0
	Mean	-	-	40.7	105.2	27.5	110.0	23.2	101.0
	SD	-	-	18.5	20.6	11.0	34.6	8.9	20.9
	N	-	-	3	3	3	3	3	3

b = Not taken due to maximum sedation time was over



Table  
Individual Electroretinogram

Test Item		(dosage)		1	2
		μL/both eyes bi-weekly (days 1, 15, 29 and 43)		10	20
Phase		Dosing Week 6			
		Photopic Measurement - b-Wave Red Flash Cone Response - Amplitude (μV)			
		Left Eye		Right Eye	
Group/Animal		300	950	300	950
Sex	Number	(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )	
1/M	45366M	35.8	75.4	45.1	108.0
	45427M	67.7	113.0	68.4	131.0
	45504M	99.4	143.0	85.6	127.0
	Mean	67.6	110.5	66.4	122.0
	SD	31.8	33.9	20.3	12.3
	N	3	3	3	3
2/M	42737M	37.4	123.0	39.2	139.0
	45370M	35.3	108.0	40.5	104.0
	45500M	16.1	58.4	14.3	50.5
	Mean	29.6	96.5	31.3	97.8
	SD	11.7	33.8	14.8	44.6
	N	3	3	3	3

Table  
Individual Electroretinogram

Test Item		(dosage)		1	2				
μL/both eyes bi-weekly (days 1, 15, 29 and 43)				10	20				
Phase		Predose 1				Predose 2			
		Photopic Measurement - b-Wave Red Flash Cone Response - Peak Latency (ms)							
		Left Eye		Right Eye		Left Eye		Right Eye	
Group/Animal		300	950	300	950	300	950	300	950
Sex	Number	(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )	
1/M	45366M	-	-	22.2	20.9	23.2	22.0	23.3	21.7
	45427M	-	-	22.6	23.4	23.9	23.0	23.7	22.7
	45504M	-	-	22.2	21.2	24.7	22.5	23.8	22.4
	Mean	-	-	22.3	21.8	23.9	22.5	23.6	22.3
	SD	-	-	0.2	1.4	0.8	0.5	0.3	0.5
	N	-	-	3	3	3	3	3	3
2/M	42737M	-	-	22.5	21.1	21.1	20.5	21.0	20.5
	45370M	-	-	23.2	21.3	28.5	25.0	27.1	26.0
	45500M	-	-	25.8	22.7	24.9	23.3	25.4	23.1
	Mean	-	-	23.8	21.7	24.8	22.9	24.5	23.2
	SD	-	-	1.7	0.9	3.7	2.3	3.1	2.8
	N	-	-	3	3	3	3	3	3

Table  
Individual Electroretinogram

Test Item		(dosage)		1	2
μL/both eyes bi-weekly (days 1, 15, 29 and 43)				10	20
Phase		Dosing Week 6			
		Photopic Measurement - b-Wave Red Flash Cone Response - Peak Latency (ms)			
		Left Eye		Right Eye	
Group/Animal		300	950	300	950
Sex	Number	(mcds/m <sup>2</sup> )		(mcds/m <sup>2</sup> )	
1/M	45366M	24.1	22.9	24.7	23.5
	45427M	22.2	22.4	22.9	22.3
	45504M	21.3	21.9	22.2	22.2
	Mean	22.5	22.4	23.3	22.7
	SD	1.4	0.5	1.3	0.7
	N	3	3	3	3
2/M	42737M	21.7	21.5	21.4	21.2
	45370M	28.5	25.6	27.5	25.2
	45500M	27.8	27.8	24.3	25.0
	Mean	26.0	25.0	24.4	23.8
	SD	3.7	3.2	3.1	2.3
	N	3	3	3	3

Table  
Individual Electroretinogram

Test Item (dosage)		1		2					
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10		20					
Phase		Predose 1				Predose 2			
		Photopic Measurement - b-Wave White Flash Cone Response (3000 mcDs/m <sup>2</sup> )							
		Amplitude (µV)		Peak Latency (ms)		Amplitude (µV)		Peak Latency (ms)	
Group/Animal	Sex Number	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	b	179.0	b	25.9	125.0	163.0	25.4	25.4
	45427M	b	193.0	b	27.5	143.0	171.0	26.3	26.1
	45504M	b	295.0	b	25.3	223.0	196.0	26.8	26.8
	Mean	-	222.3	-	26.2	163.7	176.7	26.2	26.1
	SD	-	63.3	-	1.1	52.2	17.2	0.7	0.7
	N	-	3	-	3	3	3	3	3
2/M	42737M	b	210.0	b	25.1	282.0	258.0	23.4	23.1
	45370M	b	221.0	b	25.3	a	a	a	a
	45500M	b	144.0	b	26.7	123.0	145.0	25.1	25.1
	Mean	-	191.7	-	25.7	202.5	201.5	24.3	24.1
	SD	-	41.6	-	0.9	112.4	79.9	1.2	1.4
	N	-	3	-	3	2	2	2	2

a = No measurement

b = Not taken due to maximum sedation time was over

Table  
Individual Electroretinogram

Test Item (dosage)		1	2		
µL/both eyes bi-weekly (days 1, 15, 29 and 43)		10	20		
Phase		Dosing Week 6			
Photopic Measurement - b-Wave White Flash Cone Response (3000 mcds/m <sup>2</sup> )					
Group/Animal		Amplitude (µV)		Peak Latency (ms)	
Sex	Number	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	121.0	169.0	27.2	27.7
	45427M	200.0	223.0	26.1	26.1
	45504M	286.0	234.0	25.8	26.2
	Mean	202.3	208.7	26.4	26.7
	SD	82.5	34.8	0.7	0.9
	N	3	3	3	3
2/M	42737M	242.0	279.0	24.5	24.0
	45370M	163.0	166.0	30.4	30.3
	45500M	132.0	124.0	28.5	28.3
	Mean	179.0	189.7	27.8	27.5
	SD	56.7	80.2	3.0	3.2
	N	3	3	3	3

Table  
Individual Electroretinogram

		Test Item (dosage)								1	2
		µL/both eyes bi-weekly (days 1, 15, 29 and 43)								10	20
Phase		Predose 1				Predose 2					
		Photopic Measurement - a-Wave White				Flash Cone Response (3000 mcDs/m <sup>2</sup> )					
		Amplitude (µV)		Peak Latency (ms)		Amplitude (µV)		Peak Latency (ms)			
Group/Animal	Sex Number	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	b	35.0	b	14.8	29.5	36.3	14.8	14.8		
	45427M	b	42.6	b	14.4	45.2	52.6	15.7	15.5		
	45504M	b	48.3	b	14.2	34.0	55.2	15.9	15.2		
	Mean	-	42.0	-	14.5	36.2	48.0	15.5	15.2		
	SD	-	6.7	-	0.3	8.1	10.2	0.6	0.4		
	N	-	3	-	3	3	3	3	3		
2/M	42737M	b	41.2	b	14.3	58.1	52.2	14.2	14.2		
	45370M	b	57.6	b	14.6	a	a	a	a		
	45500M	b	37.8	b	14.8	37.1	44.8	15.6	15.6		
	Mean	-	45.5	-	14.6	47.6	48.5	14.9	14.9		
	SD	-	10.6	-	0.3	14.8	5.2	1.0	1.0		
	N	-	3	-	3	2	2	2	2		

a = No measurement

b = Not taken due to maximum sedation time was over

Table  
Individual Electroretinogram

Test Item		(dosage)		1	2
μL/both eyes		bi-weekly (days 1, 15, 29 and 43)		10	20
Phase		Dosing Week 6			
Photopic Measurement - a-Wave White Flash Cone Response (3000 mcds/m <sup>2</sup> )					
Group/Animal		Amplitude (μV)		Peak Latency (ms)	
Sex	Number	Left Eye	Right Eye	Left Eye	Right Eye
1/M	45366M	26.0	36.5	15.4	15.9
	45427M	47.0	54.2	14.5	15.0
	45504M	41.5	35.8	14.1	14.1
	Mean	38.2	42.2	14.7	15.0
	SD	10.9	10.4	0.7	0.9
	N	3	3	3	3
2/M	42737M	50.9	56.6	14.8	14.6
	45370M	57.5	52.2	17.4	17.3
	45500M	31.6	25.7	15.9	16.1
	Mean	46.7	44.8	16.0	16.0
	SD	13.5	16.7	1.3	1.4
	N	3	3	3	3