

Supplementary Material

Table S1: Mean normalized concentration of each biomarker in the CM of OM-MSCs (mean \pm SD). *nd* = non-defined.

Biomarker	Mean normalized concentration				Biomarker	Mean normalized concentration				Biomarker	Mean normalized concentration						
	P4 24h	P4 48h	P7 24h	P7 48h		P4 24h	P4 48h	P7 24h	P7 48h		P4 24h	P4 48h	P7 24h	P7 48h			
EGF	Mean	nd	nd	nd	IL-2	Mean	nd	nd	nd	nd	IP-10	Mean	nd	0.12	0.28	0.43	
	SD	nd	nd	nd		nd	SD	nd	nd	nd		nd	SD	nd	0.01	0.00	0.04
Eotaxin	Mean	nd	nd	nd	IL-4	Mean	nd	nd	nd	nd	Leptin	Mean	nd	nd	nd	nd	
	SD	nd	nd	nd		nd	SD	nd	nd	nd		nd	SD	nd	nd	nd	nd
Fractalkine	Mean	nd	nd	0.040	0.040	IL-5	Mean	nd	nd	nd	nd	LIX	Mean	nd	nd	0.02	0.06
	SD	nd	nd	0.00	0.00		SD	nd	nd	nd	nd		SD	nd	nd	0.00	0.00
G-CSF	Mean	nd	nd	nd	nd	IL-6	Mean	nd	nd	nd	nd	MCP-1	Mean	nd	nd	0.05	0.11
	SD	nd	nd	nd	nd		SD	nd	nd	nd	nd		SD	nd	nd	0.00	0.00
GM-CSF	Mean	nd	nd	nd	nd	IL-10	Mean	nd	0.01	0.04	0.02	MIP-1α	Mean	nd	nd	nd	nd
	SD	nd	nd	nd	nd		SD	nd	0.01	0.01	0.00		SD	nd	nd	nd	nd
GRO/KC	Mean	nd	nd	0.08	0.19	IL-12p70	Mean	nd	nd	nd	nd	MIP-2	Mean	nd	nd	nd	nd
	SD	nd	nd	0.00	0.00		SD	nd	nd	nd	nd		SD	nd	nd	nd	nd
IFN-γ	Mean	0.03	0.04	0.06	0.115	IL-13	Mean	nd	nd	nd	nd	RANTES	Mean	nd	0.01	nd	nd
	SD	0.01	0.00	0.014	0.06		SD	nd	nd	nd	nd		SD	nd	0.00	nd	nd
IL-1α	Mean	nd	nd	nd	nd	IL-17A	Mean	nd	nd	nd	nd	TNF-α	Mean	nd	nd	nd	nd
	SD	nd	nd	nd	nd		SD	nd	nd	nd	nd		SD	nd	nd	nd	nd
IL-1β	Mean	nd	0.46	0.67	0.84	IL-18	Mean	nd	nd	nd	nd	VEGF	Mean	0.01	0.12	0.14	0.48
	SD	nd	0.01	0.23	0.23		SD	nd	nd	nd	nd		SD	0.014	0.02	0.03	0.09

Table S2: Mean normalized concentration of each biomarker in the CM of OECs (mean \pm SD). *nd* = non defined.

Biomarker	Mean normalized concentration				Biomarker	Mean normalized concentration				Biomarker	Mean normalized concentration						
	P4 24h	P4 48h	P7 24h	P7 48h		P4 24h	P4 48h	P7 24h	P7 48h		P4 24h	P4 48h	P7 24h	P7 48h			
EGF	Mean	nd	nd	1.00	1.00	IL-2	Mean	nd	nd	nd	nd	IP-10	Mean	0.03	0.14	0.27	0.78
	SD	nd	nd	0.05	0.00		SD	nd	nd	nd	nd		SD	0.04	0.04	0.09	0.20
Eotaxin	Mean	nd	nd	nd	nd	IL-4	Mean	nd	nd	nd	nd	Leptin	Mean	nd	nd	0.49	1.00
	SD	nd	nd	nd	nd		SD	nd	nd	nd	nd		SD	nd	nd	0.01	0.00
Fractalkine	Mean	0.01	0.12	0.30	0.38	IL-5	Mean	0.39	0.68	0.95	0.98	LIX	Mean	0.04	0.45	0.61	0.99
	SD	0.01	0.00	0.01	0.02		SD	0.01	0.04	0.07	0.04		SD	0.04	0.01	0.21	0.01
G-CSF	Mean	nd	nd	0.08	0.92	IL-6	Mean	nd	nd	nd	nd	MCP-1	Mean	0.002	0.02	0.02	0.05
	SD	nd	nd	0.00	0.11		SD	nd	nd	nd	nd		SD	0.003	3,000	0.002	0.004
GM-CSF	Mean	nd	nd	nd	nd	IL-10	Mean	nd	0.15	0.08	1.00	MIP-1α	Mean	nd	nd	0.05	0.98
	SD	nd	nd	nd	nd		SD	nd	0.17	0.01	0.00		SD	nd	nd	0.00	0.00
GRO/KC	Mean	0.03	0.24	0.27	0.92	IL-12p70	Mean	nd	nd	nd	nd	MIP-2	Mean	nd	0.06	nd	1.00
	SD	0.05	0.05	0.05	0.11		SD	nd	nd	nd	nd		SD	nd	0.0002	nd	0.004
IFN-γ	Mean	nd	0.10	0.46	0.67	IL-13	Mean	nd	nd	nd	nd	RANTES	Mean	0.001	0.03	0.14	0.97
	SD	nd	0.15	0.36	0.47		SD	nd	nd	nd	nd		SD	0.002	0.002	0.003	0.04
IL-1α	Mean	Mean	0.03	nd	0.96	IL-17A	Mean	nd	nd	0.04	1.00	TNF-α	Mean	nd	nd	nd	nd
	SD	SD	0.04	nd	0.06		SD	nd	nd	0.01	0.00		SD	nd	nd	nd	nd
IL-1β	Mean	0.13	0.21	0.72	0.99	IL-18	Mean	nd	nd	0.40	0.95	VEGF	Mean	0.006	0.30	0.51	0.95
	SD	0.12	0.00	0.30	0.01		SD	nd	nd	0.15	0.07		SD	0.009	0.05	0.09	0.01

Table S3: Statistical differences in the concentration of biomarkers identified in the CM of OM-MSCs. **a)** Frutalkine; **b)** GRO/KC; **c)** IFN- γ ; **d)** IL-1 β ; **e)** IL-10; **f)** IP-10; **g)** LIX; **h)** MCP-1; **i)** Rantes; **j)** VEGF.

a) FRUTALKINE				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	*	*
P4 48h			ns	ns
P7 24h				ns
P7 48h				
b) GRO/KC				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	ns
P4 48h			ns	ns
P7 24h				ns
P7 48h				
c) IFN-γ				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	ns
P4 48h			ns	ns
P7 24h				ns
P7 48h				
d) IL-1β				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	*	*
P4 48h			ns	ns
P7 24h				ns
P7 48h				
e) IL-10				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	*	**
P4 48h			ns	**
P7 24h				ns
P7 48h				

f)	IP-10			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		*	***	***
P4 48h			**	***
P7 24h				**
P7 48h				

g)	LIX			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	ns
P4 48h			ns	ns
P7 24h				ns
P7 48h				

h)	MCP-1			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		*	***	****
P4 48h			***	****
P7 24h				***
P7 48h				

i)	RANTES			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	ns
P4 48h			ns	ns
P7 24h				ns
P7 48h				

h)	VEGF			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	**
P4 48h			ns	**
P7 24h				**
P7 48h				

Table S4: Statistical differences in the concentration of biomarkers identified in the CM of OECs. **a)** EGF; **b)** Frutalkine; **c)** G-CSF; **d)** GRO/KC; **e)** IFN- γ ; **f)** IL-1 α ; **g)** IL-1 β ; **h)** IL-5; **i)** IL-10; **j)** IL-17A; **k)** IL-18; **l)** IP-10; **m)** Leptin; **n)** LIX; **o)** MCP-1; **p)** MCP-1 α ; **q)** MIP-2; **r)** Rantes; **s)** VEGF.

a) EGF				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	****	****
P4 48h			****	****
P7 24h				ns
P7 48h				

b) FRUTALKINE				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		**	***	****
P4 48h			**	***
P7 24h				*
P7 48h				

c) G-CSF				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	***
P4 48h			ns	***
P7 24h				***
P7 48h				

d) GRO/KC				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	***
P4 48h			ns	**
P7 24h				**
P7 48h				

e) IFN-γ				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	ns
P4 48h			ns	ns
P7 24h				ns
P7 48h				

f)		IL-1 α			
		P4 24h	P4 48h	P7 24h	P7 48h
P4 24h			ns	ns	***
P4 48h				ns	***
P7 24h					***
P7 48h					

g)		IL-1 β			
		P4 24h	P4 48h	P7 24h	P7 48h
P4 24h			ns	ns	*
P4 48h				ns	*
P7 24h					ns
P7 48h					

h)		IL-5			
		P4 24h	P4 48h	P7 24h	P7 48h
P4 24h			ns	*	***
P4 48h				*	**
P7 24h					ns
P7 48h					

i)		IL-10			
		P4 24h	P4 48h	P7 24h	P7 48h
P4 24h			ns	ns	***
P4 48h				ns	**
P7 24h					**
P7 48h					

j)		IL-17A			
		P4 24h	P4 48h	P7 24h	P7 48h
P4 24h			ns	**	****
P4 48h				**	****
P7 24h					****
P7 48h					

k)		IL-18			
		P4 24h	P4 48h	P7 24h	P7 48h
P4 24h			ns	*	**
P4 48h				*	**
P7 24h					**
P7 48h					

l) IP-10				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	**
P4 48h			ns	*
P7 24h				*
P7 48h				

m) LEPTIN				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	****	****
P4 48h			****	****
P7 24h				*
P7 48h				

n) LIX				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	*	**
P4 48h			ns	*
P7 24h				ns
P7 48h				

o) MCP-1				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		*	*	***
P4 48h			ns	**
P7 24h				**
P7 48h				

p) MCP-1 α				
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	ns	****
P4 48h			ns	****
P7 24h				****
P7 48h				

q)	MIP-2			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		****	ns	****
P4 48h			****	****
P7 24h				****
P7 48h				

r)	RANTES			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		ns	*	****
P4 48h			*	****
P7 24h				****
P7 48h				

s)	VEGF			
	P4 24h	P4 48h	P7 24h	P7 48h
P4 24h		**	**	****
P4 48h			*	***
P7 24h				**
P7 48h				

Table S5: Values of functional deficit (%) obtained performing the EPT test. These tests were performed preoperatively (T0), 1 and 2 weeks after neurotmesis (T1 and T2) and from there every two weeks until week 20 (T20). Results are presented as mean and SD. (*n* = number of animals per group).

EPT		Time											
		T0	T1	T2	T4	T6	T8	T10	T12	T14	T16	T18	T20
Group 1: UC (<i>n</i> = 28)	Mean	7.20	90.00	90.00	85.60	79.20	76.60	69.20	59.00	52.40	44.00	40.60	39.20
	SD	0.45	2.12	2.12	4.45	7.53	6.07	8.44	6.28	7.92	5.48	5.73	3.35
Group 2: EtE (<i>n</i> = 5)	Mean	6.69	74.9	70.6	68.6	65.44	60.27	59.71	49.55	48.03	45.08	38.98	28.19
	SD	2.51	8.57	11.40	9.92	9.78	9.64	8.70	12.17	9.37	11.47	9.86	17.05
Group 3: CMOM (<i>n</i> = 6)	Mean	6.69	74.9	70.6	68.6	65.44	60.27	59.71	49.55	48.03	45.08	38.98	28.19
	SD	2.51	8.57	11.4	9.92	9.78	9.64	8.70	12.17	9.37	11.47	9.86	17.05
Group 4: ECMOM (<i>n</i> = 6)	Mean	10.29	69.67	67.77	67.9	68.54	67.29	66.31	64.45	62.17	47.23	44.31	38.49
	SD	4.42	8.98	9.77	10.05	9.29	9.37	20.61	8.57	11.7	14.29	7.36	14.71
Group 5: CMOEC (<i>n</i> = 5)	Mean	5.41	69.95	66.17	65.15	61.79	61.61	61.61	63.12	49.6	44.73	42.91	40.97
	SD	7.18	12.15	8.25	3.96	11.41	11.21	11.2	8.46	9.63	8.65	7.22	7.33
Group 6: ECMOEC (<i>n</i> = 6)	Mean	1.45	75.07	73.44	71.63	65.55	63.12	62.97	58.96	51.38	50.74	46.66	42.33
	SD	5.44	6.65	6.47	6.00	11.43	9.99	6.23	5.31	6.80	8.26	8.58	11.13

Table S6: Statical differences observed in EPT test at 20 weeks. (*ns* = no statistically significant differences).

		EPT					
		UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC			****	****	****	****	****
EtE				ns	ns	ns	ns
CMOM					ns	ns	ns
ECMOM						ns	ns
CMOEC							ns
ECMOEC							

Table S7: WRL values in seconds (s) obtained performing WRL test. These tests were performed preoperatively (T0), 1 and 2 weeks after neurotmesis (T1 and T2) and from there every two weeks until week 20 (T20). Results are presented as mean and SD. (*n* = number of animals per group).

WRL		Time											
		T0	T1	T2	T4	T6	T8	T10	T12	T14	T16	T18	T20
Group 1: UC (<i>n</i> = 28)	Mean	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39	2.39
	SD	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Group 2: EtE (<i>n</i> = 5)	Mean	4.28	12.00	12.00	11.85	10.48	10.45	10.22	9.82	9.26	8.78	8.57	7.50
	SD	0.86	0.00	0.00	0.34	2.86	2.12	2.50	2.02	3.07	2.22	0.98	0.87
Group 3: CMOM (<i>n</i> = 6)	Mean	2.25	12.00	12.00	8.44	6.22	5.88	4.89	4.06	3.50	2.61	2.33	2.06
	SD	0.56	0.00	0.00	2.79	1.67	0.98	3.47	1.44	1.26	0.65	0.49	0.57
Group 4: ECMOM (<i>n</i> = 6)	Mean	1.94	12.00	12.00	8.83	7.94	7.59	5.72	3.67	3.89	2.83	2.61	2.39
	SD	0.86	0.00	0.00	1.52	2.02	1.62	2.47	2.22	1.63	0.41	0.53	0.83
Group 5: CMOEC (<i>n</i> = 5)	Mean	1.99	12.00	12.00	10.2	9.13	8.73	8.73	8.67	6.87	4.47	4.27	4.07
	SD	0.89	0.00	0.00	2.16	2.41	2.96	3.22	3.75	2.50	1.24	0.60	0.60
Group 6: ECMOEC (<i>n</i> = 6)	Mean	1.94	12.00	12.00	8.56	8.22	7.61	6.72	4.89	4.11	3.78	3.19	2.61
	SD	0.49	0.00	0.00	1.72	1.66	2.23	3.49	1.87	2.27	1.24	1.03	1.10

Table S8: Statical differences observed in EPT test at 20 weeks. (*ns* = no statistically significant differences).

		WRL					
		UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC			****	ns	ns	ns	ns
EtE				****	****	****	****
CMOM					ns	ns	ns
ECMOM						ns	ns
CMOEC							ns
ECMOEC							

Table S9: Results of functional recovery through the SFI. These tests were performed preoperatively (T0), 1 and 2 weeks after neurotmesis (T1 and T2) and from there every two weeks until week 20 (T20). Results are presented as mean and SD. (n = number of animals per group).

SFI		Time											
		T0	T1	T2	T4	T6	T8	T10	T12	T14	T16	T18	T20
Group 1: UC (n = 28)	Mean	-1.45	-1.45	-1.45	-1.45	-1.45	-1.45	-1.45	-1.45	-1.45	-1.45	-1.45	-1.45
	SD	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12	11.12
Group 2: EtE (n = 5)	Mean	0.06	-86.73	-86.73	-81.15	-71.8	-67.1	-61.98	-59.59	-58.39	-54.19	-53.99	-46.56
	SD	3.91	4.22	4.22	17.11	8.12	6.79	11.39	25.98	3.20	20.18	30.30	14.54
Group 3: CMOM (n = 6)	Mean	0.76	-62.41	-48.52	-38.48	-38.04	-40.31	-36.98	-27.94	-24.54	-19.89	-13.9	-6.49
	SD	6.83	25.33	16.04	23.44	16.74	17.23	4.80	18.13	8.68	4.54	15.31	10.56
Group 4: ECMOM (n = 6)	Mean	-6.93	-48.57	-40.42	-33.09	-31.61	-30.43	-29.97	-29.47	-26.05	-23.64	-21.31	-21.24
	SD	4.92	12.26	17.26	10.88	15.79	17.51	21.52	21.74	10.74	6.54	15.54	5.57
Group 5: CMOEC (n = 5)	Mean	4.2	-42.88	-44.45	-35.29	-32.95	-30.96	-24.21	-22.46	-20.71	-21.39	-21.29	-17.17
	SD	11.23	16.8	9.06	20.84	8.60	5.26	12.15	10.54	11.07	6.58	6.66	41.37
Group 6: ECMOEC (n = 6)	Mean	15.02	-49.48	-47.54	-45.35	-41.3	-41.18	-33.15	-32.98	-32.15	-29.48	-29.00	-26.82
	SD	11.62	12.65	6.21	9.97	12.58	22.71	9.49	9.71	17.19	15.7	13.07	15.17

Table S10: Statical differences observed in SFI test at 20 weeks. (*ns* = no statistically significant differences).

		SFI					
		UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC			****	ns	ns	ns	**
EtE				**	ns	ns	ns
CMOM					ns	ns	ns
ECMOM						ns	ns
CMOEC							ns
ECMOEC							

Table S11: Results of functional recovery through the SSI. These tests were performed preoperatively (T0), 1 and 2 weeks after neurotmesis (T1 and T2) and from there every two weeks until week 20 (T20). Results are presented as mean and SD. (n = number of animals per group).

SSI		Time											
		T0	T1	T2	T4	T6	T8	T10	T12	T14	T16	T18	T20
Group 1: UC (n = 28)	Mean	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98	1.98
	SD	11.87	11.87	11.87	11.87	11.87	11.87	11.87	11.87	11.87	11.87	11.87	11.87
Group 2: EtE (n = 5)	Mean	-5.78	-74.44	-73.92	-70.22	-68.04	-59.97	-52.47	-46.56	-44.21	-43.04	-41.91	-33.72
	SD	12.91	6.83	6.82	6.44	11.02	2.64	27.43	16.79	15.34	12.31	24.55	15.72
Group 3: CMOM (n = 6)	Mean	5.68	-65.49	-52.95	-37.73	-38.15	-35.32	-36.49	-29.53	-23.29	-24.7	-11.17	-7.87
	SD	3.17	15.14	15.93	24.04	16.57	15.63	9.89	16.09	6.28	7.27	11.12	6.54
Group 4: ECMOM (n = 6)	Mean	0.06	-45.64	-35.61	-31.43	-30.75	-29.44	-29.25	-26.45	-26.4	-25.95	-21.89	-17.82
	SD	5.78	10.35	18.25	10.51	19.64	15.56	19.53	14.75	13.5	10.35	8.72	10.11
Group 5: CMOEC (n = 5)	Mean	6.89	-44.24	-44.63	-31.72	-30.63	-19.89	-31.51	-25.3	-22.59	-22.22	-21.62	-10.14
	SD	6.46	17.57	10.61	24.55	9.24	12.57	10.01	14.3	12.67	8.43	8.38	41.08
Group 6: ECMOEC (n = 6)	Mean	0.06	-45.64	-35.61	-31.43	-30.75	-29.44	-29.25	-26.45	-26.4	-25.95	-21.89	-17.82
	SD	5.78	10.35	18.25	10.51	19.64	15.56	19.53	14.75	13.5	10.35	8.72	10.11

Table S12: Statical differences observed in SSI test at 20 weeks. (ns = no statistically significant differences).

		SSI					
		UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC			***	ns	ns	ns	**
EtE				ns	ns	ns	ns
CMOM					ns	ns	ns
ECMOM						ns	ns
CMOEC							ns
ECMOEC							

Table S13: Stereological quantitative assessment. The different parameters considered were evaluated in the regenerated sciatic nerve at week 20 (T20) after neurotmesis. Results are presented as mean and SD (n = number of animals per group).

Stereological Quantitative Assessment		Density	Total number	Axon diameter (d)	Fiber diameter (D)	Myelin thickness (M)	M/d	D/d	d/D (g-ratio)	Cross-sectional area (mm ²)
Group 1: UC (n = 4)	Mean	10167	10200	5.00	8.28	1.64	0.35	1.71	0.60	1.005
	SD	490.1	1355	0.39	0.40	0.05	0.03	0.07	0.02	0.1258
Group 2: EtE (n = 5)	Mean	30072	17423	2.37	3.77	0.70	0.35	1.70	0.60	0.6100
	SD	5443	2217	0.13	0.21	0.05	0.02	0.03	0.01	0.2115
Group 3: CMOM (n = 6)	Mean	20153	12572	3.01	4.42	0.71	0.24	0.68	0.66	0.6258
	SD	3609	2324	0.33	0.42	0.05	0.14	0.79	0.01	0.0604
Group 4: ECMOM (n = 4)	Mean	21631	11462	2.84	4.4	0.78	0.28	0.64	0.65	0.5339
	SD	1395	3486	0.29	0.63	0.26	0.9	0.45	0.05	0.1727
Group 5: CMOEC (n = 5)	Mean	27884	10851	2.73	3.9	0.58	0.21	0.7	0.68	0.3889
	SD	429	1962	0.72	0.74	0.09	0.12	0.98	0.06	0.0678
Group 6: ECMOEC (n = 4)	Mean	22010	11131	2.95	4.28	0.67	0.23	0.69	0.67	0.5033
	SD	3517	2573	0.27	0.39	0.12	0.44	0.69	0.04	0.0567

Table S14: Statistical differences in the nerve stereological analysis: **a)** Density of fibers; **b)** Total number of fibers; **c)** Axon diameter; **d)** Fiber diameter; **e)** Myelin thickness; **f)** g-ratio; **g)** Cross sectional area. (ns = no statistically significant differences).

a) Density

	UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC		****	**	***	****	***
EtE			***	**	ns	*
CMOM				ns	*	ns
ECMOM					ns	ns
CMOEC						ns
ECMOEC						

b) Total number

	UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC		*	ns	ns	ns	ns
EtE			ns	ns	***	ns
CMOM				ns	ns	ns
ECMOM					ns	ns
CMOEC						ns
ECMOEC						

c) Axon diameter (d)

	UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC		****	****	****	****	****
EtE			ns	ns	ns	ns
CMOM				ns	ns	ns
ECMOM					ns	ns
CMOEC						ns
ECMOEC						

d) Fiber diameter (D)

	UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC		****	****	****	****	****
EtE			ns	ns	ns	ns
CMOM				ns	ns	ns
ECMOM					ns	ns
CMOEC						ns
ECMOEC						

e) Myelin thickness (M)

	UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC		****	****	****	****	****
EtE			ns	ns	ns	ns
CMOM				ns	ns	ns
ECMOM					ns	ns
CMOEC						ns
ECMOEC						

f) d/D (g-ratio)

	UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC		ns	ns	ns	**	*
EtE			ns	ns	**	*
CMOM				ns	ns	ns
ECMOM					ns	ns
CMOEC						ns
ECMOEC						

g) Cross-sectional area (mm²)

	UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC		**	**	**	***	***
EtE			ns	ns	ns	ns
CMOM				ns	ns	ns
ECMOM					ns	ns
CMOEC						ns
ECMOEC						

Table S15: Muscle Mass Lost in the cranial tibial muscles of the different therapeutic groups compared to healthy contralateral muscles. Healthy Control and Lesion values are expressed in grams (g).

Lost of Muscle Mass		Healthy Control	Lesion	Ratio	% of loss
Group CMOM (n = 6)	Mean	1.14	0.80	70.86	29.14
	SD	0.14	0.12	7.06	
Group 4: ECMOM (n = 4)	Mean	1.15	0.67	60.42	39.58
	SD	0.14	0.35	31.84	
Group 5: CMOEC (n = 5)	Mean	1.33	0.69	53.70	46.30
	SD	0.22	0.27	14.70	
Group 6: ECMOEC (n = 4)	Mean	1.24	0.54	42.16	57.84
	SD	0.23	0.25	14.53	

Table S16: Statically significant differences in the evaluation of the Tibial Cranial Muscles: **a)** individual fiber area; **b)** minimum Feret's diameter of the muscle fibers (*ns* = no statistically significant differences).

a)		Fibre Area					
		UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC			ns	ns	ns	****	****
EtE				****	****	****	****
CMOM					ns	****	****
ECMOM						****	****
CMOEC							**
ECMOEC							

b)		Minimum Feret's Diameter					
		UC	EtE	CMOM	ECMOM	CMOEC	ECMOEC
UC			****	****	****	****	****
EtE				****	****	****	****
CMOM					****	ns	ns
ECMOM						****	**
CMOEC							ns
ECMOEC							