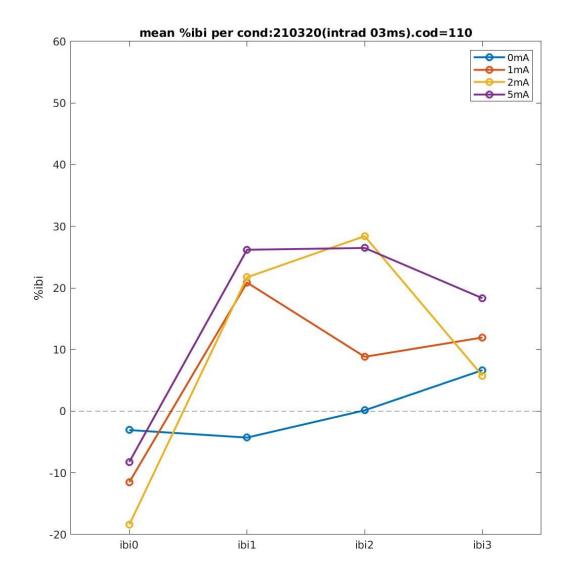
## **Pulso de 300 microsegundos**

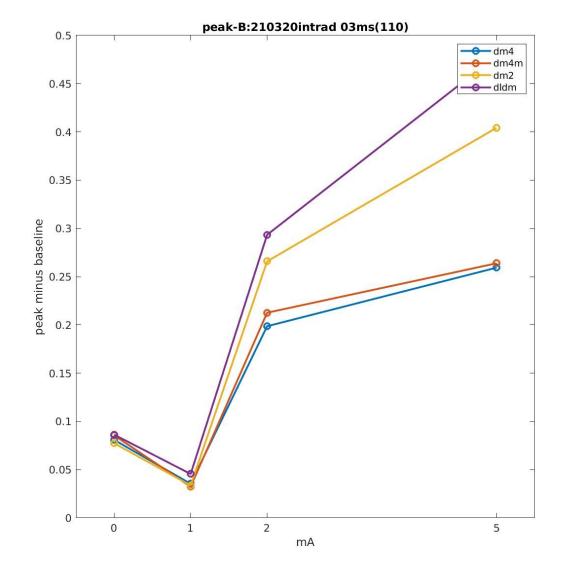
- Cuando el estímulo consiste en un pulso de 300 microsegundos se observa bradicardia a partir de 1 mA.
- También empiezan a aparecer los sharks a partir de 1 mA. De hecho se ve un incremento gradual en la frecuencia de los sharks cuando se incrementa la intensidad del estímulo.
- En los tres peces analizados, cuando se analizan si los ensayos con sharks presentan o no bradicardia encontramos dos peces en lo que la mayoría de los ensayos con sharks no presentan bradicardia. Y un pez en el que cuando hay sharks hay bradicardia en la mitad de los ensayos.

Pez 210320. Pulsito 0,3ms intradermal.									
	Nº trial total	(nºshark)		%trial conBradi	%trial con shark	% shark conBradi	shark sinBradi		
	Bradi	noBradi							
Control0mA (#110)	0	8(0)		0	0	0	0		
1mA (#111)	3(1)	7(3)		30	40	10	30		
2mA (#112)	2(0)	8(5)		20	50	0	50		
5mA (#113)	3(2)	7(4)		30	60	20	40		

Р	Pez 210320. Pulsito 0,3ms intradermal.								
	brady (beats)	%ibi0	%ibi1	%ibi2	%ibi3				
Control0 mA (#110)	-7.3	-3.063	-4.284	0.141	6.653				
1mA (#111)	17.9	-11.52	20.868	8.825	11.95 2				
2mA (#112)	21	-18.419	21.724	28.394	5.75				
5mA (#113)	15.4	-8.235	26.191	26.479	18.32 8				



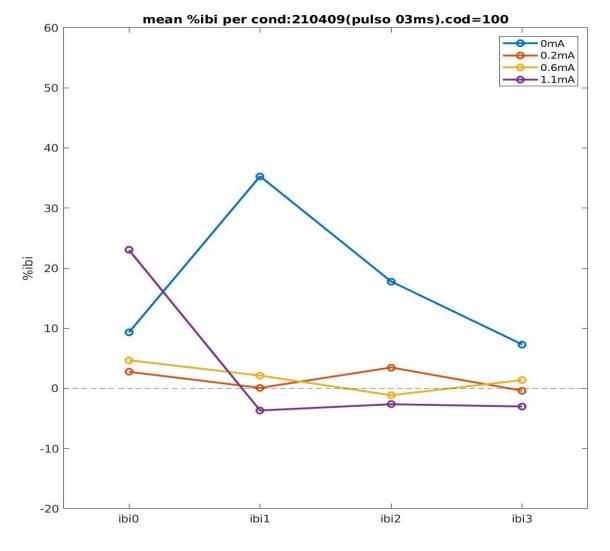
Pez 210320. Pulsito 0,3ms intradermal.								
	dm4	dm4m	dm2	dldm				
Control0mA (#110)	0.1145	0.1276	0.16	0.1953				
1mA (#111)	0.082	0.0829	0.0973	0.1418				
2mA (#112)	0.2332	0.2414	0.3281	0.3678				
5mA (#113)	0.2868	0.2921	0.4574	0.5753				



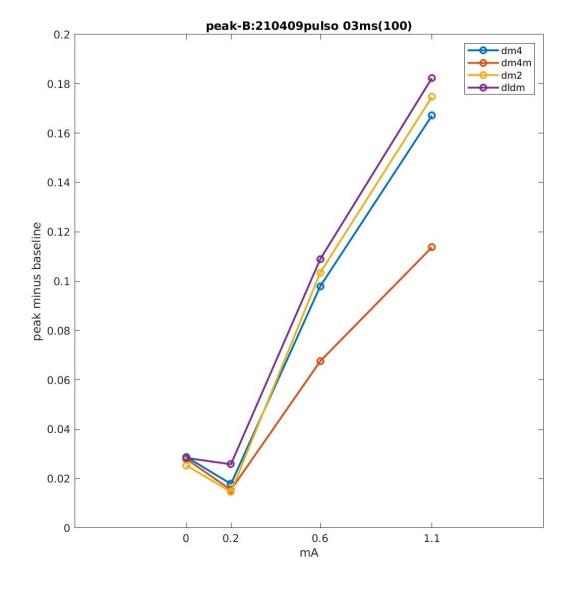
1		peak-B	:210320i	ntrad 03ms(110)	
0.8 -			ī		dm4 dm4m dm2 dldm
- 6.0					-
peak minus baseline .0	[	T .			_
0.2 -					
0 -	Ī	İ	İ		_
-0.2	0	1	2 n	nA	5

	Pez 210409. Pulsito 0.3ms								
	nº total (nºshark)			%trial conBradi	%trial con shark	% shark conBradi	shark sinBradi		
Control 0mA (#100)	0	30(4)		0	13,33333 333	0	13,33		
0.2mA (#101)	2(1)	27(4)		7,407407407	17,24137 931	3,448275 9	13,7931		
0.6mA (#102)	1(0)	33(7)		3,03030303	20,58823 529	0	20,58824		
1.1mA (#103)	3(2)	22(6)		13,63636364	32	8	24		

Pez 210409. Pulsito 0.3ms								
	Brady (beats)		%ibi0	%ibi1	%ibi2	%ibi3		
Control 0mA (#100)	7.26		9.32	35.29	17.79	7.31		
0.2mA (#101)	-2.65		2.76	0.09	3.47	-0.38		
0.6mA (#102)	2.52		4.68	2.13	-1.14	1.38		
1.1mA (#103)	-2.96		23.04	-3.67	-2.64	-3.01		



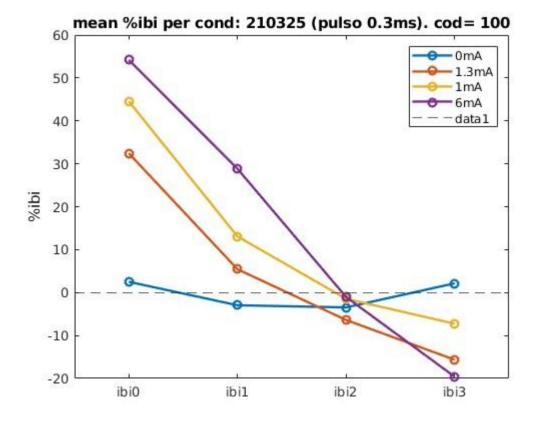
	Pez 210409. Pulsito 0.3ms								
	dm4	dm4m	dm2	dldm					
Control 0mA (#100)	0.067	0.069	0.086	0.087					
0.2mA (#101)	0.064	0.067	0.080	0.100					
0.6mA (#102)	0.130	0.107	0.145	0.151					
1.1mA (#103)	0.187	0.138	0.204	0.216					



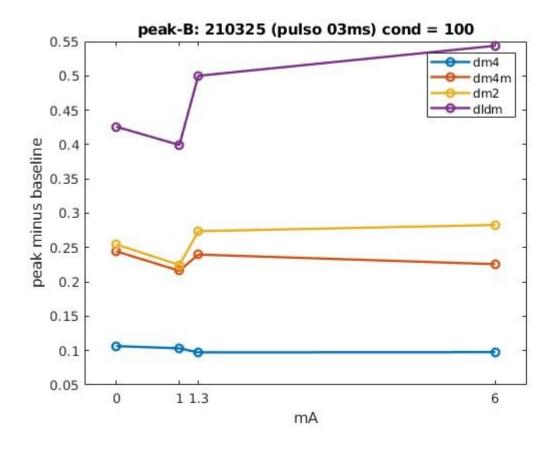
0.4	peak-B:21	0409pulso 03m	s(100)	
0.35 -	1 1		Ī	dm4 dm4m dm2 dldm
0.3 -		I		
0.25 -	I			
o.2 –	Ŧ †			
Deak minus baseline con contract contra	† †			
0.1 -				
0.05			ŧ	
0 -	‡	I		
-0.05 -	1 ‡			
-0.1	0 0.2	0.6 mA	1.1	

	Pez 210325. Pulsito 0.3ms							
	nº total (nºshark)			%trial conBradi	%trial con shark	% shark conBradi	shark sinBradi	
	Bradi	noBradi						
Control 0mA (#100)	0	15(2)	0.00	13,33	0.00	13,33		
1mA (#102)	7(2)	8(2)	46,66	26,66	13,33	13,3		
1.3mA (#101)	7(4)	8(3)	46,66	46,66	26,66	20.00		
6mA (#103)	7(7)	8(8)	46,66	100.00	46,66	53,33		

	Pez 210325. Pulsito 0.3ms								
	Brad y (beat s)		%ibi0	%ibi1	%ibi 2	%ibi3			
Control 0mA (#100)	-1.33		2.5	-2.95	-3.45	2.15			
1mA (#102)	2		32.43	5.44	-6.38	- 15.65			
1.3mA (#101)	11.53		44.55	13.08	-1.44	-7.26			
6mA (#103)	6.53		54.21	28.83	-1.03	-19.6			



	Pez 210325. Pulsito 0.3ms								
	dm4	dm4m	dm2	dldm					
Control 0mA (#100)	0.107	0.103	0.097	0.098					
1mA (#102)	0.255	0.225	0.274	0.283					
1.3mA (#101)	0.245	0.216	0.24	0.226					
6mA (#103)	0.426	0.399	0.5	0.544					



## **Pulso de 150 microsegundos**

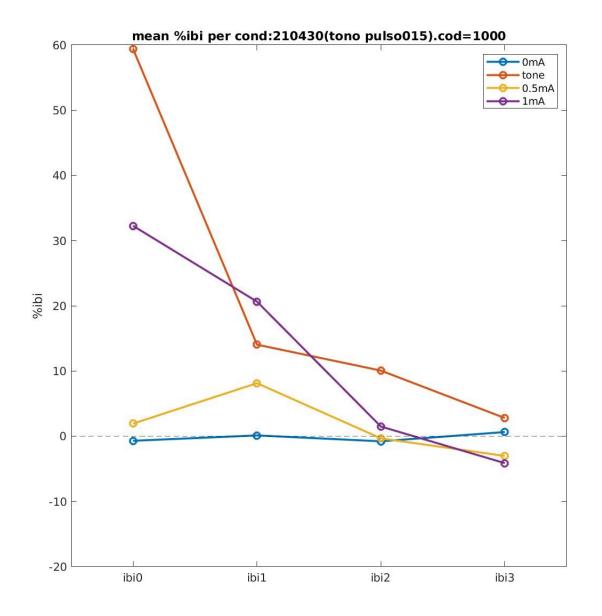
Cuando el estímulo consiste en un pulso de 150 microsegundos se observa bradicardia a partir de 1 mA.

No hay sharks en este pez. Podría ser porque la intensidad del estímulo no ha superado 1 mA.

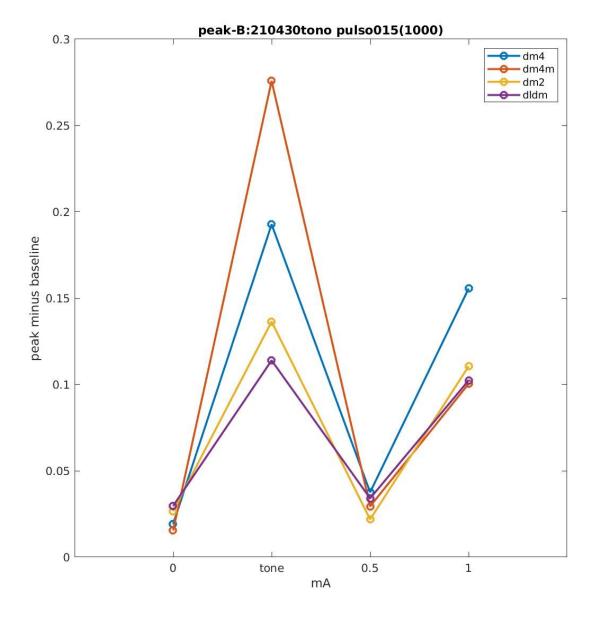
\*en algunos bloques se incluye tono en una condición

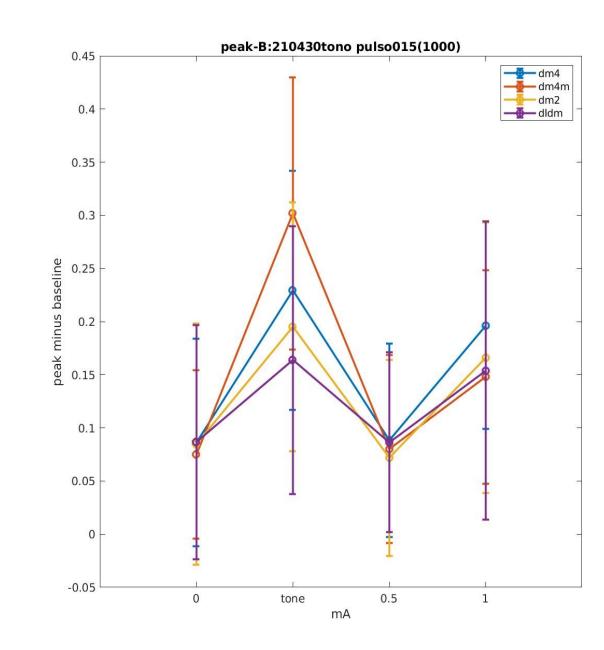
			Pez 21	.0430. Pulsito	150us		
	nº total (nºshark)			%trial conBradi	%trial con shark	% shark conBradi	shark sinBradi
	Bradi	noBradi					
Control 0mA (#1000)	0	32(1)		0	3,1	0	3,1
- mA (#100) tono							
0.5mA (#1002)	4(0)	26(1)		13,3	3,3	0	3,3
1mA (#1003)	17 (1)	11(0)		60,7	3,5	3,5	0

	brady (beats)	%ibi0	%ibi1	%ibi2	%ibi3
Control 0mA (#1000)	-3.58	-0.7	0.12	-0.78	0.64
- mA (#100) tono	14.03	59.39	14.04	10.06	2.79
0.5mA (#1002)	0.13	1.93	8.13	-0.33	-3.02
1mA (#1003)	9.52	32.26	20.64	1.48	-4.13



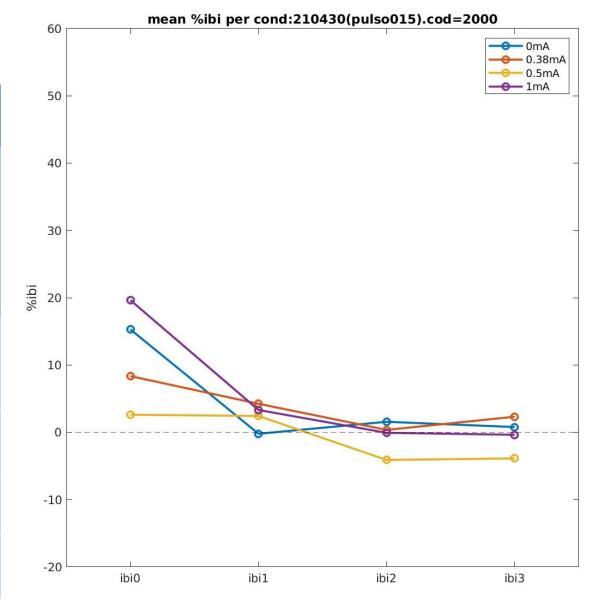
	Pez 210	430. Pulsit	o 150us	
	dm4	dm4m	dm2	dldm
Control 0mA (#1000)	0.086	0.075	0.085	0.087
- mA (#100) tono	0.229	0.302	0.195	0.164
0.5mA (#1002)	0.088	0.08	0.072	0.086
1mA (#1003)	0.197	0.148	0.166	0.154



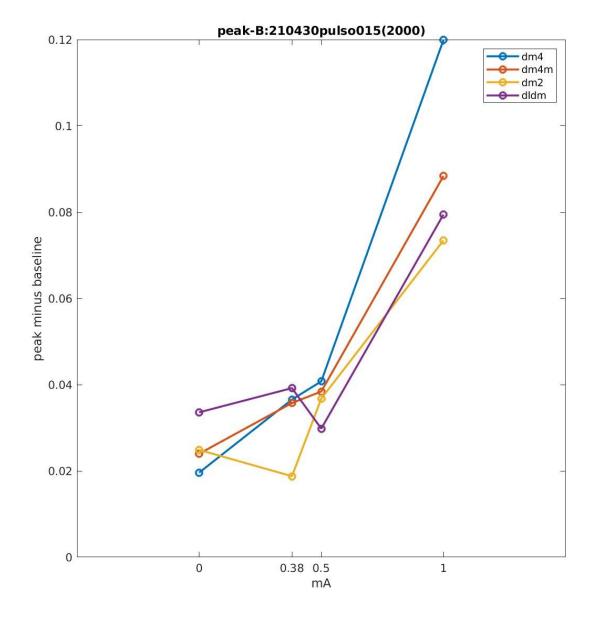


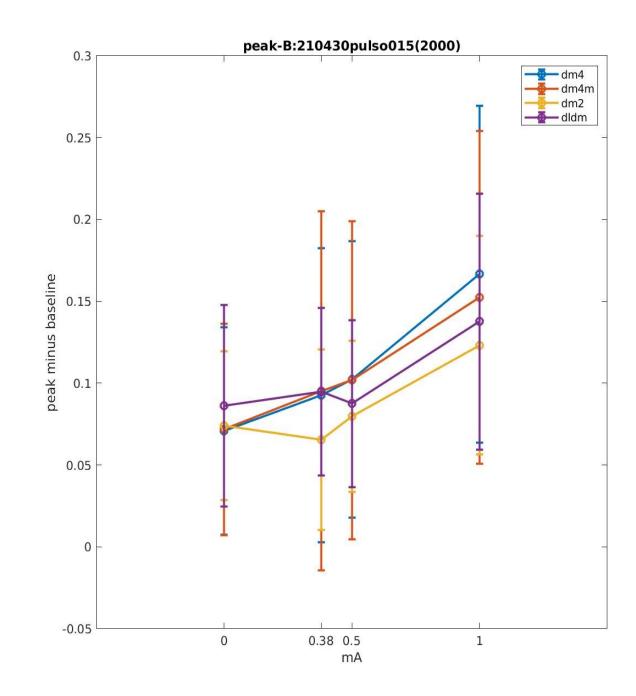
		Pez 210430 (mismo pez, otro bloque) . Pulsito 150us							
	nº total (nºshark)			%trial conBradi	%trial con shark	% shark conBradi	shark sinBradi		
	Bradi	noBradi							
Control 0mA (#2000)	0	27(0)		0,00	0	0	0		
0.38mA (#2001)	6(0)	20(0)		23,08	0	0	0		
0.5mA (#2002)	3(0)	25(0)		10,71	0	0	0		
1mA (#2003)	6(0)	18(0)		25,00	0	0	0		

	Pez 210430 (mismo pez, otro bloque) . Pulsito 150us							
	Brady (beats)		%ibi0	%ibi1	%ibi2	%ibi3		
Control 0mA (#2000)	2.41		15.27	-0.22	1.56	0.77		
0.38mA (#2001)	5.62		8.34	4.23	0.35	2.31		
0.5mA (#2002)	-2.46		2.61	2.42	-4.12	-3.88		
1mA (#2003)	3.96		19.62	3.31	-0.08	-0.37		



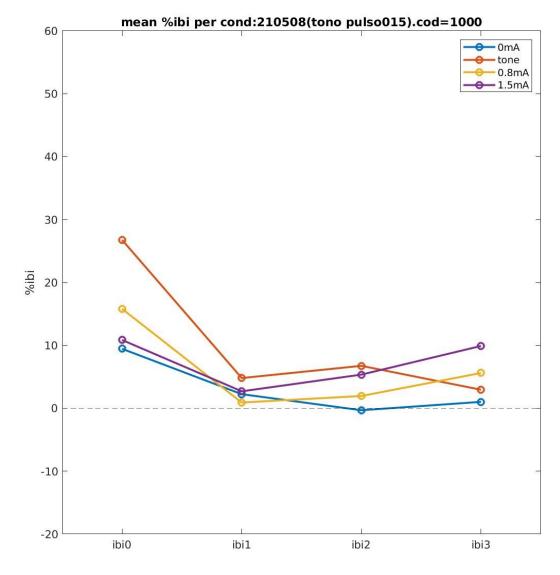
Pez 210430 (mismo pez, otro bloque) . Pulsito 150us							
	dm4	dm4m	dm2	dldm			
Control 0mA (#2000)	0.071	0.072	0.074	0.086			
0.38mA (#2001)	0.093	0.095	0.065	0.095			
0.5mA (#2002)	0.102	0.102	0.08	0.087			
1mA (#2003)	0.167	0.152	0.123	0.137			



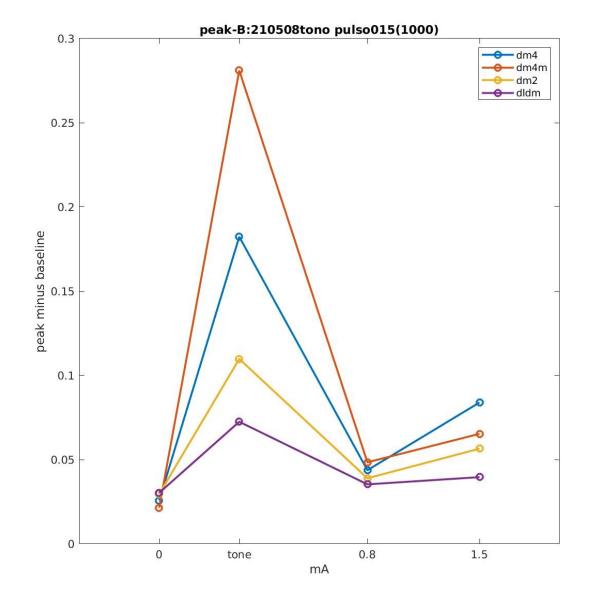


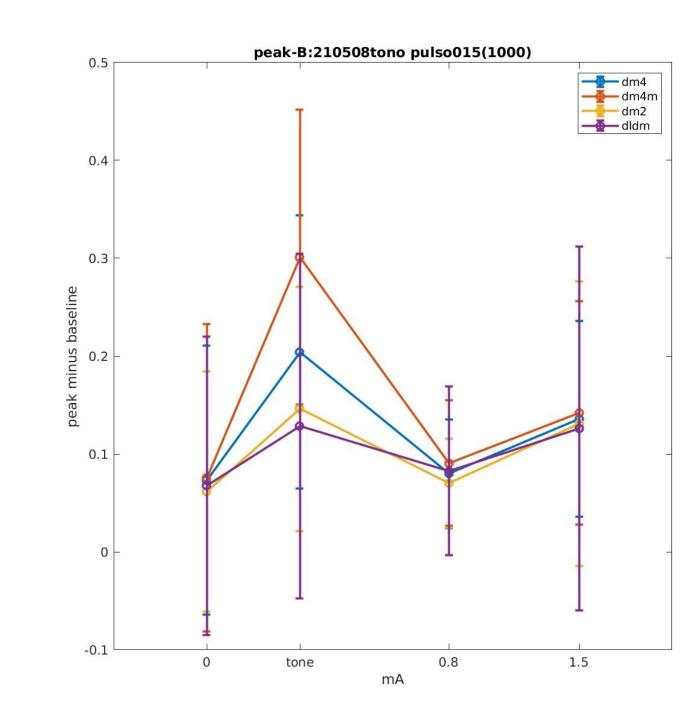
Pez 2	210508. Pulsit	to 150us				
	Bradi	noBrad i	%trial conBradi	%trial con shark	% shark conBra di	shark sinBra di
Control 0mA (#1000)	4 (1)	37 (1)	9.76	4.87	2.43	2.43
0.8mA (#1002)	3 (0)	39 (0)	7.14	0	0	0
1.5mA (#1003)	11 (1)	31 (4)	26.19	11.904	2.38	9.52

		Pez 210508. Pulsito 150us							
	Brady (beats)		%ibi0	%ibi1	%ibi2	%ibi3			
Control 0mA (#1000)	0.95		9.45	2.24	-0.31	1.02			
tono (#1001)	10.5		26.76	4.8	6.74	2.95			
0.8mA (#1002)	2.4		15.8	0.91	1.95	5.61			
1.5mA (#1003)	5.57		10.85	2.69	5.35	9.9			



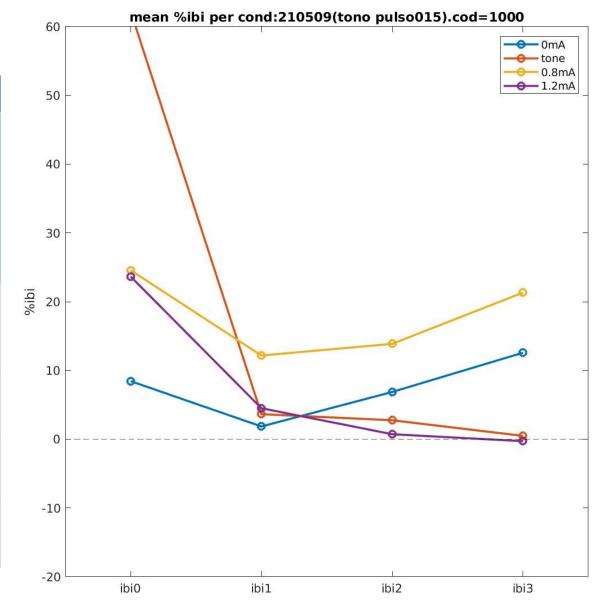
	Pez 210	508. Pulsito	150us	
	dm4	dm4m	dm2	dldm
Control 0mA (#1000)	0.073	0.076	0.062	0.068
tono (#1001)	0.204	0.301	0.146	0.129
0.8mA (#1002)	0.08	0.091	0.07	0.083
1.5mA (#1003)	0.136	0.142	0.131	0.126



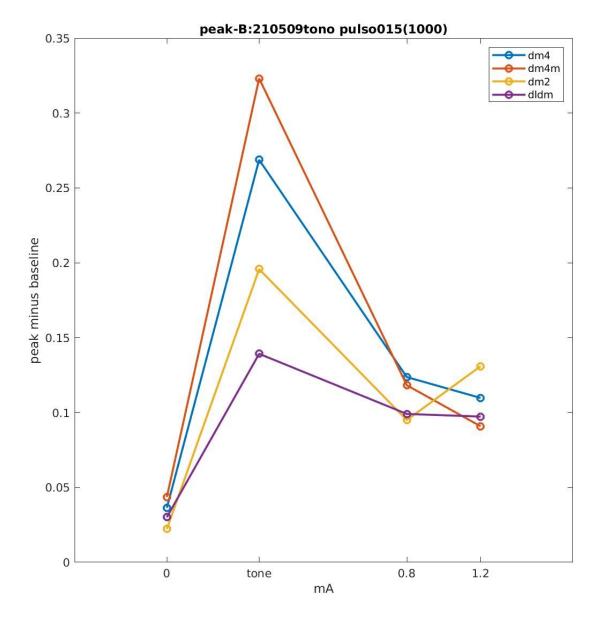


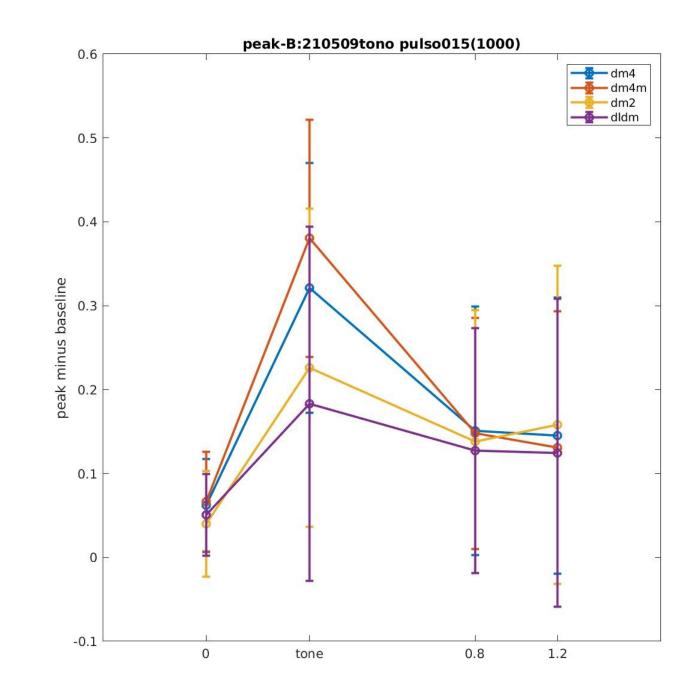
		Pez 210509. Pulsito 150us								
	Bradi	noBradi		%trial conBradi	%trial con shark	% shark conBradi	shark sinBradi			
Control 0mA (#1000)	1 (0)	10 (0)		9.09	0	0	0			
0.8mA (#1002)	4(1)	7(0)		36.36	9.09	9.09	0			
1.2mA (#1003)	1(1)	10(0)		9.09	9.09	9.09	0			

	Pez 210509. Pulsito 150us								
	Brady (beats)		%ibi0	%ibi1	%ibi2	%ibi3			
Control 0mA (#1000)	-7.45		8.44	1.86	6.87	12.58			
tono (#1001)	9.36		62.24	3.64	2.76	0.49			
0.8mA (#1002)	11.45		24.57	12.17	13.87	21.32			
1.2mA (#1003)	-2.09		23.66	4.5	0.72	-0.29			



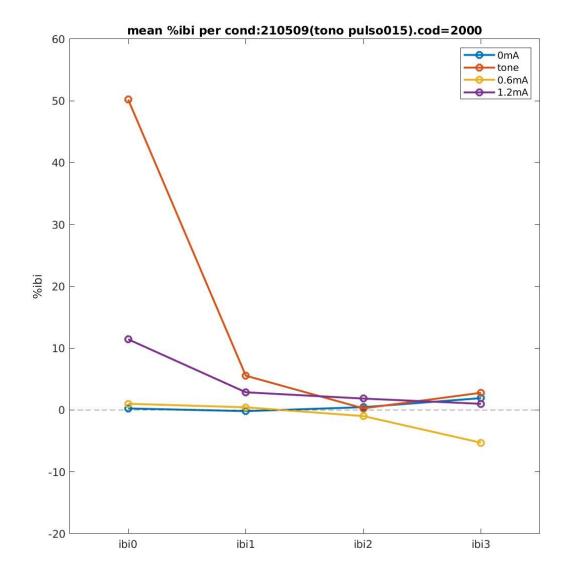
	Pez	Pez 210509. Pulsito 150us								
	dm4	dm4m	dm2	dldm						
Control 0mA (#1000)	0.062	0.066	0.04	0.051						
tono (#1001)	0.321	0.38	0.226	0.183						
0.8mA (#1002)	0.151	0.148	0.138	0.127						
1.2mA (#1003)	0.145	0.131	0.158	0.125						



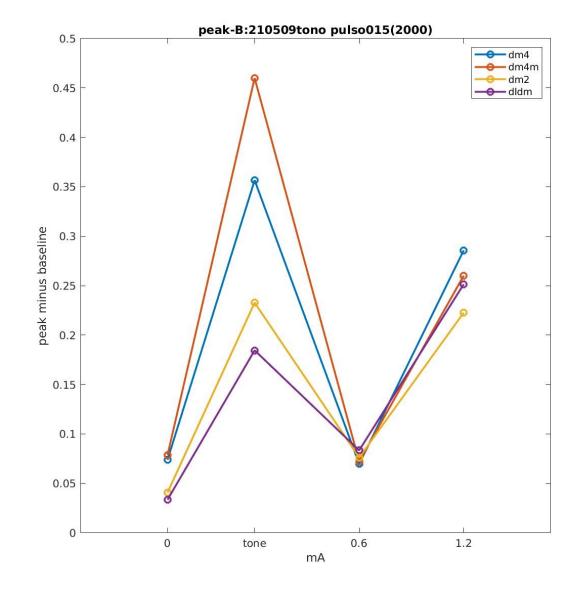


Pez 2								
	Bradi	noBradi		%trial conBradi	%trial con shark	% shark conBra di	shark sinBra di	
Control 0mA (#2000)	1 (0)	18 (1)		5.26	5.26	0.00	5.26	
0.6mA (#2002)	0	20 (2)		0.00	10.00	0.00	10.00	
1.2mA (#2003)	3 (2)	16(6)		15.79	42.11	10.53	31.58	

	Pez 210509. Pulsito 150us						
	Brady (beats)		%ibi0	%ibi1	%ibi2	%ibi3	
Control 0mA (#2000)	-1.74		0.26	-0.17	0.47	1.93	
tono (#2001)	8.53		50.21	5.55	0.28	2.79	
0.6mA (#2002)	-0.15		1.01	0.44	-0.98	-5.28	
1.2mA (#2003)	1.32		11.44	2.87	1.85	1.01	



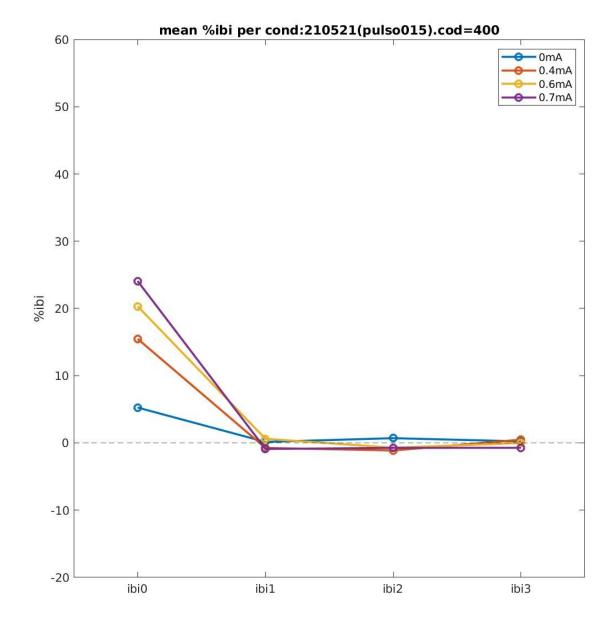
	Pez 210509. Pulsito 150us						
	dm4	dm4m	dm2	dldm			
Control 0mA (#2000)	0.114	0.126	0.068	0.092			
tono (#2001)	0.384	0.479	0.261	0.242			
0.6mA (#2002)	0.121	0.125	0.104	0.108			
1.2mA (#2003)	0.318	0.298	0.248	0.282			



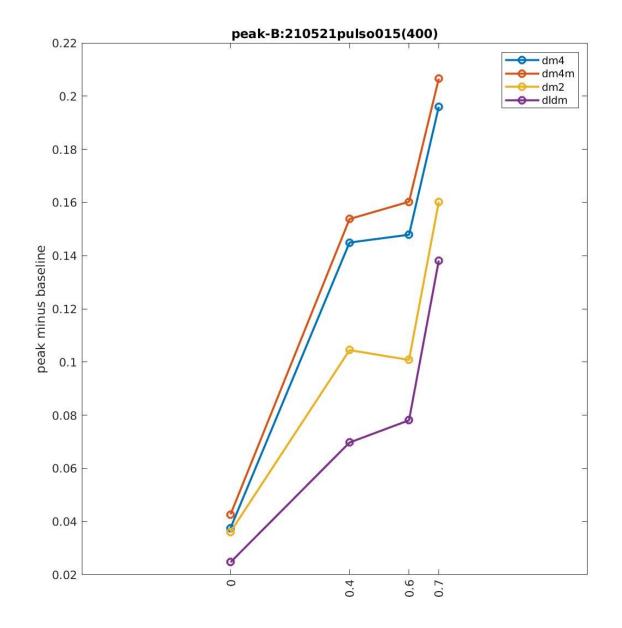
	0.7	peak-B:210509tono pulso015(2000)
	0.6	■ dm4 ■ dm4m ■ dm2 ■ dldm
	0.5	
seline	0.4	
peak minus baseline	0.3	- <del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del>
peak	0.2	
	0.1	
	0	
	-0.1	0 tone 0.6 1.2 mA

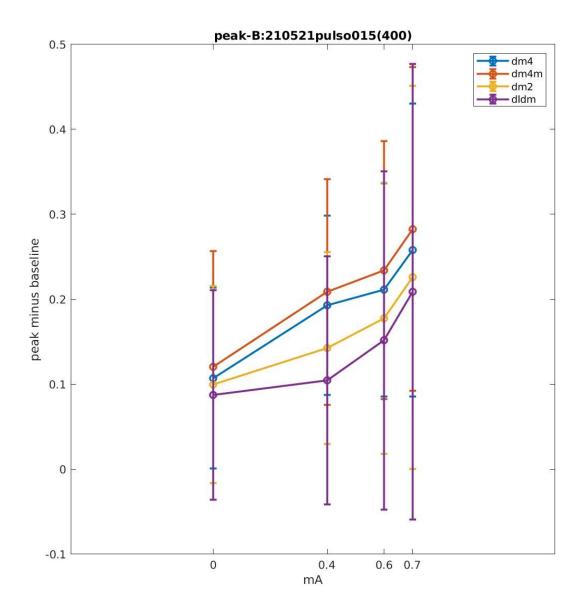
	Pez 210521. Pulsito 150us							
	Bradi	noBradi		% ensayos con bradicar dia	% ensayos con shark	shark con bradi	shark sin bradi	
Control 0mA (#400)								
0.4mA (#401)								
0.8mA (#402)								
0.7mA (#403)								
0.8mA (#404)								

210521. Pulso 150us						
Brady (beats )		%ibi0	%ibi1	%ibi2	%ibi3	
-1.57		5.26	0.15	0.71	0.23	
5.48		15.48	-0.74	-1.13	0.48	
2.3		20.33	0.61	-0.71	-0.01	
2.95		24.07	-0.9	-0.74	-0.72	
2.64		28.85	0.56	-0.65	-1.02	
	(beats ) -1.57 5.48 2.3	(beats ) -1.57 5.48 2.3	Brady (beats ) %ibi0 (5.26 5.48 15.48 20.33 24.07	Brady (beats ) %ibi0 %ibi1   -1.57	Brady (beats)       %ibi0       %ibi1       %ibi2         -1.57       5.26       0.15       0.71         5.48       15.48       -0.74       -1.13         2.3       20.33       0.61       -0.71         2.95       24.07       -0.9       -0.74	



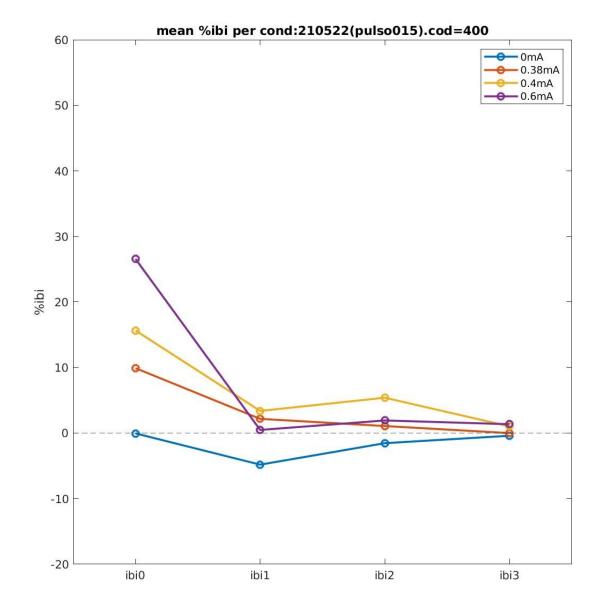
210521. Pulso 150us							
	dm4	dm4m	dm2	dldm			
Control 0mA (#400)	0.107	0.120	0.100	0.088			
0.4mA (#401)	0.193	0.209	0.143	0.105			
0.6mA (#402)	0.211	0.234	0.178	0.152			
0.7mA (#403)	0.258	0.283	0.226	0.209			
0.8mA (#404)	0.277	0.292	0.246	0.217			



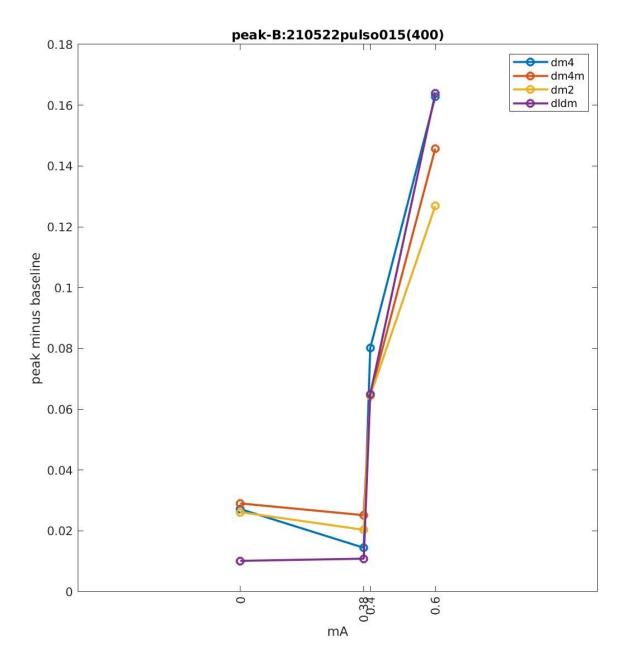


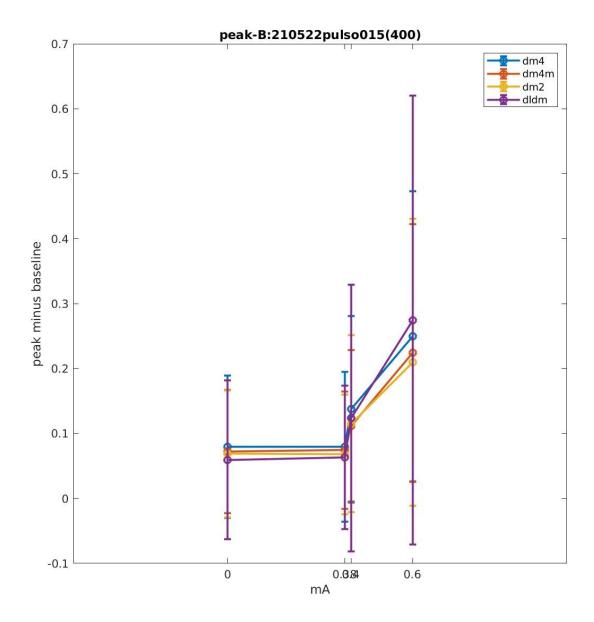
		Pez 210522. Pulsito 150us					
	Bradi	noBradi		% ensayo s con bradica rdia	s con	shark con bradi	shark sin bradi
Control 0mA (#400)							
0.38mA (#401)							
0.4mA (#402)							
0.6mA (#403)							
0.8mA (#404)							

		210522. Pulso 150us						
	Brady (beats)		%ibi0	%ibi1	%ibi2	%ibi3		
Contr ol 0mA (#400)	-4.55		-0.05	-4.81	-1.54	-0.4		
0.38m A (#401)	0.83		9.9	2.17	1.08	0		
0.4mA (#402)	4.88		15.65	3.38	5.4	1.02		
0.6mA (#403)	5.65		26.57	0.48	1.93	1.36		
0.8mA (#404)	3.5		29.36	0.2	2.22	1.84		



210522. Pulso 150us							
	dm4	dm4m	dm2	dldm			
Control 0mA (#400)	0.079	0.072	0.069	0.059			
0.38m A (#401)	0.080	0.074	0.068	0.064			
0.4mA (#402)	0.137	0.112	0.115	0.124			
0.6mA (#403)	0.249	0.225	0.210	0.275			
0.8mA (#404)	0.344	0.311	0.292	0.408			



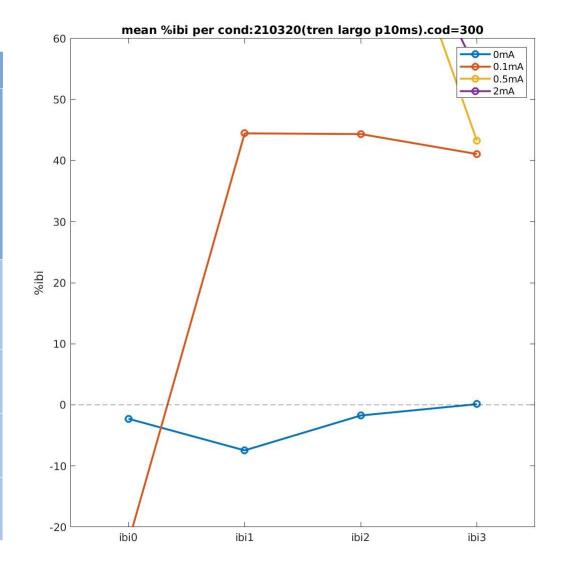


## Tren de 3 pulsos de 10 mseg (total=60ms)

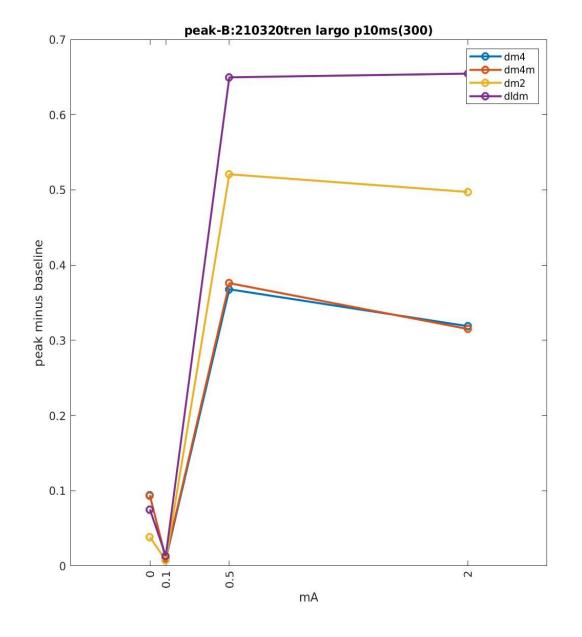
- Cuando el estímulo consiste en un tren de 10 mseg se observa bradicardia a partir de 0.2 mA.
- También empiezan a aparecer los sharks desde 0.2 mA.
- De estos ensayos con sharks en un pez la mayoría tienen bradicardia y en otro se distribuye al azar.

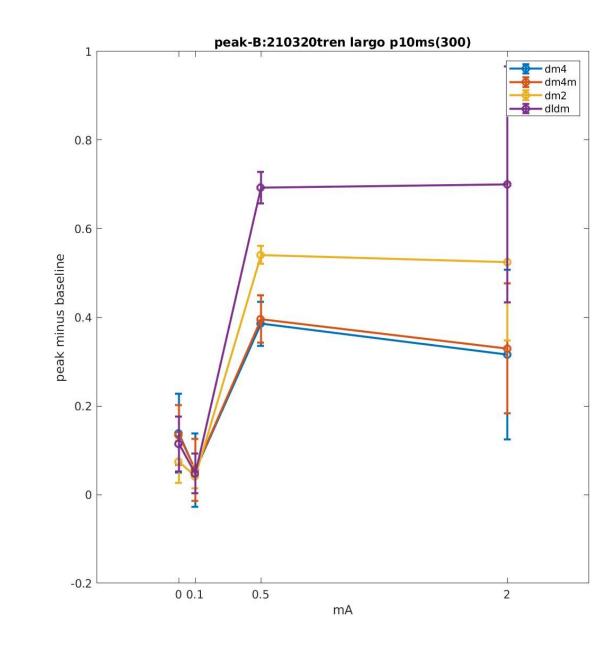
		Pez 210320. tren largo 10ms no aleatoriz							
	nº total (nºshark)			%trial conBra di	%trial con shark	% shark conBra di	shark sinBradi		
	Bradi	noBradi							
Control 0mA (#300)	0	0		0	0	0	0		
0.1mA (#301)	0	8(0)		0	0	0	0		
0.5mA (#302)	9(9)	0		100	100	100	0		
2mA (#303)	6(6)	2(1)		75	87,5	75	12,5		

	Pez 21	Pez 210320. tren largo 10ms no aleatoriz						
	Brady (beats)		%ibi0	%ibi1	%ibi2	%ibi3		
Control 0mA (#300)	-8.33		-2.27	-7.45	-1.73	0.12		
0.1mA (#301)	35.75		-22.4	44.46	44.34	41.07		
0.5mA (#302)	65.89		74.07	118.37	97.15	43.24		
2mA (#303)	64.75		106.13	97.08	94.29	54.61		



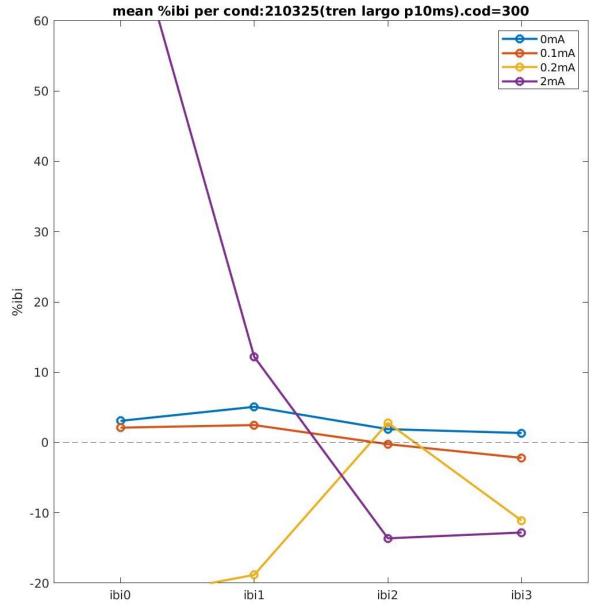
Pez 210320. tren largo 10ms no aleatoriz						
	dm4	dm4m	dm2	dldm		
Control 0mA (#300)	0.138	0.134	0.074	0.115		
0.1mA (#301)	0.055	0.056	0.041	0.048		
0.5mA (#302)	0.385	0.396	0.541	0.692		
2mA (#303)	0.316	0.33	0.525	0.699		



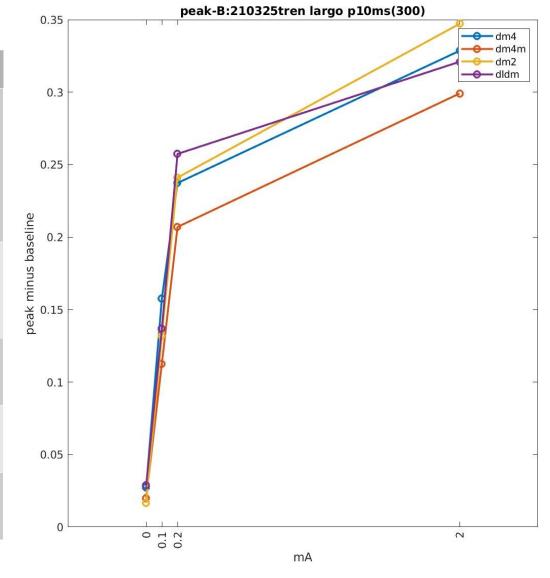


	Pez 210325. Tren largo 10ms							
	nº total (nºshark)			%trial conBradi	%trial con shark	% shark conBradi	shark sinBradi	
	Bradi	noBradi						
Control 0mA (#00)	0	15(0)		0.00	0.00	0.00	0.00	
0.1mA (#301)	0	15(4)		0.00	26,66	0.00	26,66	
0.2mA (#302)	4(4)	11(10)		26,66	100.00	26,66	73,33	
2mA (#303)	9(9)	7(7)		56,25	100.00	56,25	43,75	

		Pez 210325. Tren largo 10ms							
	Brady (beats)	%ibi0	%ibi1	%ibi2	%ibi3				
Control 0mA (#300)	6.07	3.08	5.07	1.9	1.35				
0.1mA (#301)	-3.4	2.11	2.48	-0.23	-2.18				
0.2mA (#302)	-18.53	-22.4	-18.83	2.81	-11.11				
2mA (#303)	13.44	79.25	12.19	-13.63	-12.81				



Pez 210325. Tren largo 10ms							
	dm4	dm4m	dm2	dldm			
Control 0mA (#300)	0.065	0.054	0.064	0.052			
0.1mA (#301)	0.181	0.139	0.161	0.146			
0.2mA (#302)	0.242	0.215	0.253	0.264			
2mA (#303)	0.331	0.304	0.35	0.324			



	0.45	peak-B:210325tren largo p10ms(300)	
	0.4	- d d d d d d	m4 m4m m2 ldm
	0.35		7 <u>2.</u>
	0.3		<u>.</u>
aseline	0.25		
peak minus baseline	0.2		-
peak	0.15	- <b>I</b> **	_
	0.1		-
	0.05		-
	0		
	-0.05	0 0.10.2 2 mA	