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Statistical Summary Document

Manuscript Title: TRPV1 in arteries enables a rapid myogenic tone

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Animal model used, if applicable C57BL6 wild-type and TRPV1-null mice and Wistar and Sprague-Dawley rats
Underlying hypothesis:
Definitions of 'n':
n refers to number of animals/arteries/cells.
Statistical summary table:

Experimental question number*	Finding/ conclusion	Experimental location/ variable e.g. cortex vs cerebellum or genotype	Data comparisons e.g. WT vs KO	Mean value (or other summary statistic)	SD	Units	n (number of arteries/cells/animals)	P**	Statistical test	Any other variable e.g. subjects' age or sex	Figure /table in which data are presented	Comments e.g. observation
	BCTC dilates skeletal muscle arteries via TRPV1	Pressurized arteries	WT KO	35.80602 2.49018	10.43791 2.147802	%	3 mice (4 arteries)	0.0080	Nested t-test		Fig 1B	
	AMG517 dilates skeletal muscle arteries via TRPV1	Pressurized arteries	WT KO	34.89682 4.205057	23.38224 2.672904	%	3 mice (3 arteries)	0.0016	t-test, unpaired		Fig 1D	
	BCTC does not dilate mesenteric arteries	Pressurized arteries	WT (BCTC) WT (KCl)	2.48204 -57.4312	4.961487 15.88456	%	4 arteries (4 mice)	0.7640 0.0002	t-test, unpaired		Fig 1F	
	BCTC dilates in vivo arteries	Intravital	WT (BCTC) KO (BCTC) WT (KCl) KO (KCl)	38.45987 2.13411 61.84612 67.24672	6.42052 4.473331 6.143179 5.390591	%	5 mice (5 arteries)	0.00008831 0.20122614	t-test, unpaired		Fig 2B	

	BCTC dose-dependently dilates in vivo arteries	Intravital	Control 0.3 1.0 3.0	0.615821 0.740523 0.853182 0.896321	0.020344 0.080135 0.055677 0.0562	Fraction	4 arteries (4 mice)	0.02444816 0.00022920 <0.0001	One-way ANOVA Tukey's Multi. comp.		Fig 2D	
	BCTC dilates skeletal muscle arteries	Intravital	Medium and small diameter arteries	39.83683 54.59394	6.442589 6.579126	%	5 arteries (4 mice) 8 arteries (5 mice)	0.002218	t-test, unpaired		Fig 2E	
	Resting tone	Intravital	Medium and small diameter arteries	37.50144 46.94252	5.0441 6.829841	%	4 arteries (4 mice) 5 arteries (4 mice)	0.048044	t-test, unpaired		Fig 2F	
	BCTC increases coronary perfusion	Isolated rat heart	Control and treatment	14.25296 621.028	4.500067 296.398	ml/min.s	5 rats	0.0018	t-test, unpaired		FIG 3B	
	BCTC does not alter steady-state heart rate	Isolated rat heart	Control and treatment	281.6735 283.9274	21.43018 19.35162	bpm	5 rats	0.874842	t-test, unpaired		FIG 3C	
	BCTC/SNP decrease systemic BP in rat (dose)	RAT (DIA, SYS)	Dose (0.03; 0.1; 0.3; 1.0)	3.184 -0.426 -5.948 -20.778 3.184 -0.426 -5.948 -20.778	1.892678 4.001516 3.368192 4.046544 1.892678 4.001516 3.368192 4.046544	mm Hg	5 rats	0.17560200 0.02010027 0.00023063 0.05270178 0.01849842 0.00050428	One-way ANOVA Tukey's Multi. comp.		FIG 4B	

	AMG517 decreases systemic BP in rats	Rat (SYS, DIA)	Amg 517 dose response Control (SYS) Treatment (SYS) Control (DIA) Treatment (DIA)	127.046 128.956 135.646 133.488 122.718 120.496 125.346 117.37 93.362 94.336 103.026 100.424 87.308 86.408 93.098 79.942	20.66009 23.53726 16.03402 12.40765 16.83425 18.51014 17.44873 17.94041 16.95598 22.07003 13.73218 13.86851 12.60242 18.6587 15.462 25.52751	mm Hg	5 rats	0.6032 0.3171 0.0027 0.0030 0.4353 0.3038 0.0065 0.01880	One-way ANOVA Tukey's Multi. comp.		FIG 4C	
	BCTC/SNP decrease systemic BP in mice	Mouse (SYS, DIA)	BCTC WT (DIA/SYS) TRPV1-null (DIA/SYS) SNP WT (DIA/SYS) TRPV1-null (DIA/SYS)	-12.847 -8.94561 -3.12459 -0.96912 -16.619 -13.6649 -12.9537 -11.549	2.911599 2.354242 1.035271 0.47467 1.386909 1.769888 2.914533 2.08653	mm Hg	6 mice 4 mice	0.00000047 0.00002000 0.32805633 0.88299234	t-test, unpaired		FIG 4E	

	BCTC decrease systemic BP in RTX treated mice	Mouse (SYS, DIA, MAP)	BCTC Control (DIA, SYS, MAP) Treatment (DIA, SYS, MAP)	88.47644 115.2109 97.38793 71.96207 102.8361 82.25342	3.897514 4.234861 3.416286 3.518895 3.075774 2.225586		5 mice	0.00000118 0.00010357 0.00000501	t-test, unpaired		FIG 4F	
	BCTC does not acutely change HR	HR	Control WT Treatment WT Control KO Treatment KO	636.9884 608.3058 572.4317 560.5236	44.4489 51.30342 59.04784 50.77621	bpm	6 mice	0.3250 0.7158	t-test, unpaired		FIG 4G	
	BCTC increases HR after 5 min	HR	Control Treatment	601.6914 672.345	27.49864 34.06389	bpm	4 mice	0.0176	t-test, unpaired		FIG 4I	
	Myogenic tone at 20, 40, 60, 80, 100 mmHg	skeletal muscle arteries	WT WT + BCTC TRPV1-null	8.561519 13.70206 22.40182 33.2379 39.34806 8.124501 10.85864 14.08234 15.81591 17.93432 7.833402 13.97354 21.11865 30.34135	3.23711 2.103144 2.232566 4.103836 3.481853 1.49867 2.295249 1.645578 1.325535 2.938253 2.317243 2.943404 3.398901 3.288179	%	3 mice (3 arteries)	>0.999999 >0.992468 0.0118 0.00022939 0.00000001 >0.9999999 >0.9999999 0.99999911	One-way ANOVA Tukey's Multi. comp.		FIG 5D	

			TRPV1-null + BCTC	36.05223 8.373332 11.48333 20.83333 29.73000 34.29667	2.94392 3.171141 2.645191 3.915869 6.242764 5.871544			0.97293909 >0.99999999 0.99998676 >0.99999999 >0.99999999 0.99999995				
	$T_{1/2}$ for tone	skeletal muscle arteries	WT TRPV1-null	172 108 64 42.66 42.66 100 94.66 74	12 18.3303 10.58301 8.326664 12.2202 10.58301 12.8582 9.165151	s	3 mice (3 arteries)	 0.9966229 0.9899879 0.0332 0.0118	One-way ANOVA Tukey's Multi. comp.		FIG 5E	
	T1/2 for recovery tone (s)	skeletal muscle arteries	WT TRPV1-null	57.33333 150.3333	9.291573 13.79613	s	3 mice (3 arteries)	0.0006	t-test, unpaired		FIG 6B	
	T1/2 for recovery tone (s)	skeletal muscle arteries	WT TRPV1-null (Big arteries) WT TRPV1-null (Small rteries)	29.294 64.6 16.2 47.5	6.438624 6.228965 1.643168 4.434712	s	3 mice (5 arteries)	0.0023 0.0315	Nested t-test		FIG 6C	

	Relative mRNA expression	skeletal muscle arteries	WT – TRPV3 - TRPV4 - TRPM2 - TRPM3 - TRPM4 - TRPC3 - TRPC6 - ANO1 - TRPP1 TRPV1-null – TRPV3 - TRPV4 - TRPM2 - TRPM3 - TRPM4 - TRPC3 - TRPC6 - ANO1 - TRPP1	 0.98185 1.087915 0.703193 0.987963 0.545279 1.200912 1.039957 0.740712 0.84766 1.049063 1.020504 0.757069 0.902302 1.204397 1.145709 1.048457 0.760527 1.481293	 0.607671 0.202501 0.312037 0.437276 0.269582 0.454483 0.161758 0.353376 0.24337 0.563089 0.227278 0.384312 0.372263 0.189216 0.216159 0.121006 0.225457 0.472082	Fold	Mice: 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	 0.999993 >0.999999 >0.999999 >0.999999 <0.0001 >0.999999 >0.999999 >0.999999 0.0046	t-test, unpaired		FIG 7A	
	Change in diameter of pressurized arteries at 80 mmHg	skeletal muscle arteries	WT 9-Phen 9-Phen+BCTC TRPV1-null 9-Phen 9-Phen+BCTC	0.478718 0.88674 0.627662 0.660028	0.113112 0.054862 0.015103 0.073465	Fraction	4 mice (4 arteries) 4 mice (4 arteries)	<0.0001 0.0365	t-test, unpaired		7D	

	Myogenic tone at 80 mmHg	skeletal muscle arteries	Control 0 Ca^{2+} Nif BCTC 9-Phen 9-Phen+BCTC	37.224570 8.754813 20.8445 26.31549 7.525086	8.0057310 2.360206 7.340872 7.583201 2.390831	%	6 mice (6 arteries) 6 mice (6 arteries) 4 mice (4 arteries) 6 mice (6 arteries) 4 mice (4 arteries) 4 mice (4 arteries)	<0.0001 <0.0001 0.00261338 0.0496506 <0.0001	t-test, unpaired		7E	
	Arterial dilation following 40 s constriction evoked by KCl	skeletal muscle arteries	WT +BCTC TRPV1-null	37.95101 1.353535 10.37655	4.517157 1.814343 4.799506	%	5 mice (5 arteries) 5 mice (5 arteries) 4 mice (4 arteries)	<0.0001 <0.0001	t-test, unpaired		8C	
	T1/2 for recovery tone (s)	skeletal muscle arteries	WT TRPV1-null	61.93667 293.3333	8.007573 12.2202	s	3 mice (3 arteries)	0.00001050	t-test, unpaired		8C	
	Dilation of medium-diameter (~60 µm) and small (~25 µm) arteries in response to 6 s application of KCl	skeletal muscle arteries	WT ~60 µm ~25 µm TRPV1-null ~60 µm ~25 µm	33.43 55.38911 4.972356 19.29903	3.145966 9.279433 4.972356 8.584285	%	3 mice (3 arteries) 5 mice (5 arteries) 4 mice (4 arteries) 4 mice (4 arteries)	0.00001301 0.00157494	t-test, unpaired		8F	
	$[Ca^{2+}]$ increases in SMCs	skeletal muscle arteries	WT WT+BCTC TRPV1-null WT (at 23^0C)	1.97037 1.20639 1.164923 1.143298	0.085038 0.053339 0.033939 0.07433	F/F0	(47 cells) (35 cells) (30 cells) (28 cells) 3 mice	0.0021 0.0047 0.0050	Nested t-test		9B,C	
	$[Ca^{2+}]$ increases in arteries denuded of endothelium	skeletal muscle arteries	WT WT+BCTC	1.63278 2.863949 1.438347 1.964777	0.33632 0.067503 0.022495 0.03696	F/F0	(51 cells) (29 cells) 4 mice	0.0055 0.0087	Nested t-test		9E	

	BCTC dilates pressurized, denuded arteries	skeletal muscle arteries	WT WT+BCTC	8.280497 0.33632 13.0194 18.8664	1.002263 5.317553 2.695062 3.994979	%	4 arteries (4 mice)	 0.0117 0.0005	Nested t-test		9F	
	Changes in diameter of pressurized arteries at 80 mmHg	skeletal muscle arteries	WT U73343 U73122 Nif GX1092003X TRPV1 null U73343 U73122 Nif GX 092003X	 3.188072 37.85547 44.67708 37.60581 4.226716 35.34996 46.93400 39.94000	 4.042399 9.471528 13.83954 6.603166 5.843728 15.26672 16.44336 7.145533	%	4 mice (4 arteries) 4 mice (5 arteries) 3 mice (4 arteries) 4 mice (4 arteries) 4 mice (4 arteries) 4 mice (5 arteries) 3 mice (4 arteries) 4 mice (4 arteries)	0.999759 0.001059 0.000170 0.0000005 0.98460 0.00020 0.00114 0.00056	Nested 1 way ANOVA		Fig 10B	

** Authors may wish to make the text bold where p is considered significant against a stated confidence limit