SUPPLEMENTARY DATA:

	*m*CES2 samples					
	30 ng		60 ng		120 ng	
Time (sec)	average	S.E.M	average	S.E.M	average	S.E.M
0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
10	0.025467	0.000720	0.051200	0.002265	0.097800	0.003859
20	0.043867	0.001785	0.093000	0.002868	0.167533	0.004907
30	0.062200	0.003559	0.120333	0.001785	0.211867	0.006706
40	0.082533	0.000720	0.145667	0.013411	0.289200	0.003266
50	0.102000	0.001633	0.171267	0.014350	0.329000	0.005354
60	0.101467	0.000544	0.201867	0.014631	0.340467	0.001361
	NTC samples					
	30 ng		60 ng		120 ng	
Time (sec)	average	S.E.M	average	S.E.M	average	S.E.M
0	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
10	0.015133	0.002880	0.023467	0.005761	0.069133	0.001515
20	0.029200	0.001247	0.064200	0.003399	0.131867	0.004481
30	0.037867	0.003954	0.091533	0.001785	0.176867	0.003839
40	0.054867	0.004119	0.118867	0.004907	0.231533	0.003067
50	0.077333	0.003839	0.143667	0.004380	0.284333	0.002373
60	0.072800	0.000817	0.153467	0.005664	0.306467	0.003345

Table 1: Esterase activity of mCES2 (mouse Carboxyl ESterase 2) and NTC (Non-Template Control) samples using PNPA method. Data table of Fig 3 c representing time dependent and dose-dependent curve shown above as absorbance at 410 nm, n=3.

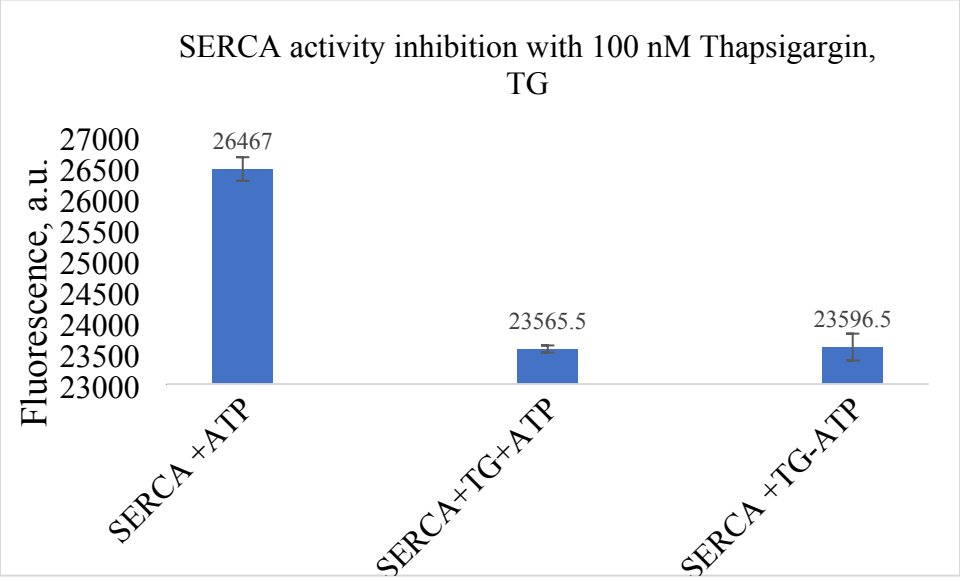

Figure1: SERCA activity measured by fluorescence spectroscopy: Fluorescence activity measured with the *m*CES2 microsomes pre-loaded with Ca^{2+} under different experimental conditions. SERCA activity in the presence of ATP (SERCA + ATP), SERCA activity in the presence of TG and ATP (SERCA +TG+ATP) and SERCA activity measured in the presence of 100 nM TG without any ATP (SERCA+TG-ATP), n=2, 10 µg of *m*CES2 protein each well, data represented mean +/- S.E.M. Clear inhibition of SERCA activity is observed with TG in samples with and without ATP.

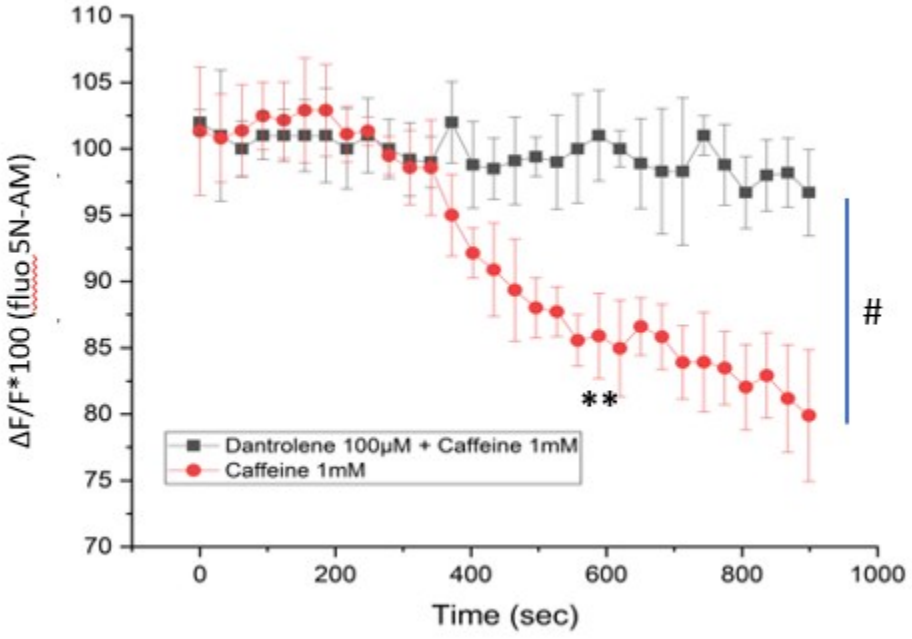

Figure 2: Inhibitory effects of dantrolene on caffeine induced calcium release via ryanodine receptor (RyR2) activation in *m*CES2 microsomes, n=5 each. ** indicate significant difference of caffeine sample dataset before (150 s) and after adding caffeine (600 sec) with p value = 0.002, paired t test, two tailed. # indicate the significant difference between the two sample groups at 600 sec with p value = 0.0159, Mann Whitney test, two tailed. The fluorescence value is represented as ΔF/F *100 of Fluo 5N-AM +/- S.E.M. All the samples were calcium loaded with ATP for 60 min, 37°C prior to caffeine and dantrolene experiments. For caffeine experiments, 1 mM caffeine was used for activation of ryanodine channel at 5 min. For inhibition experiments, the samples were pre-incubated with dantrolene minimum 20 min prior to start of the experiments and also additionally maintained in the baseline buffer from time 0 to 5 min. No calcium release induced by caffeine added at 5 min was observed in samples in the presence of dantrolene.

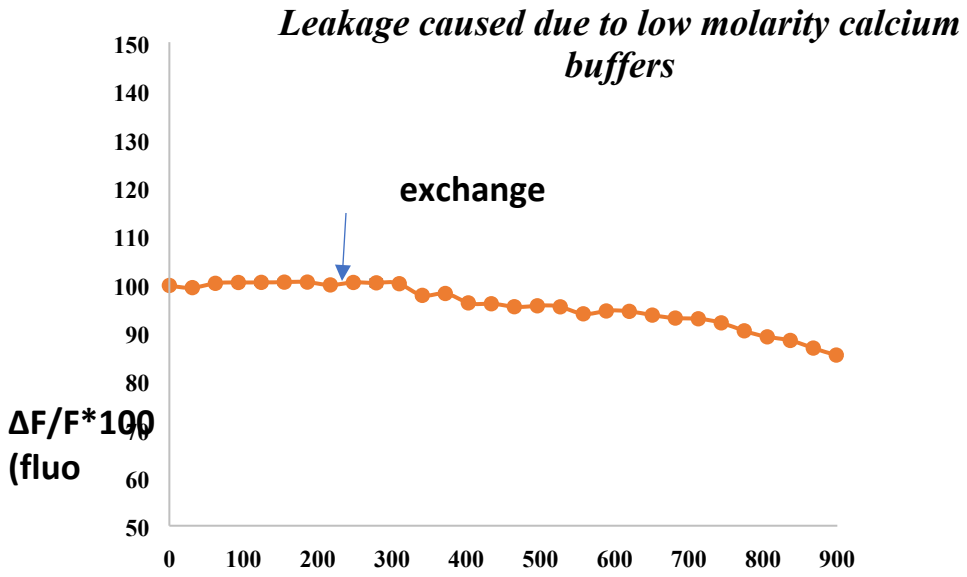

Fig3: Gradual leakage caused due to change in the buffer from 200 µM to 300 nM Ca^{2+}**,** n=5; data represented mean +/- S.E.M.

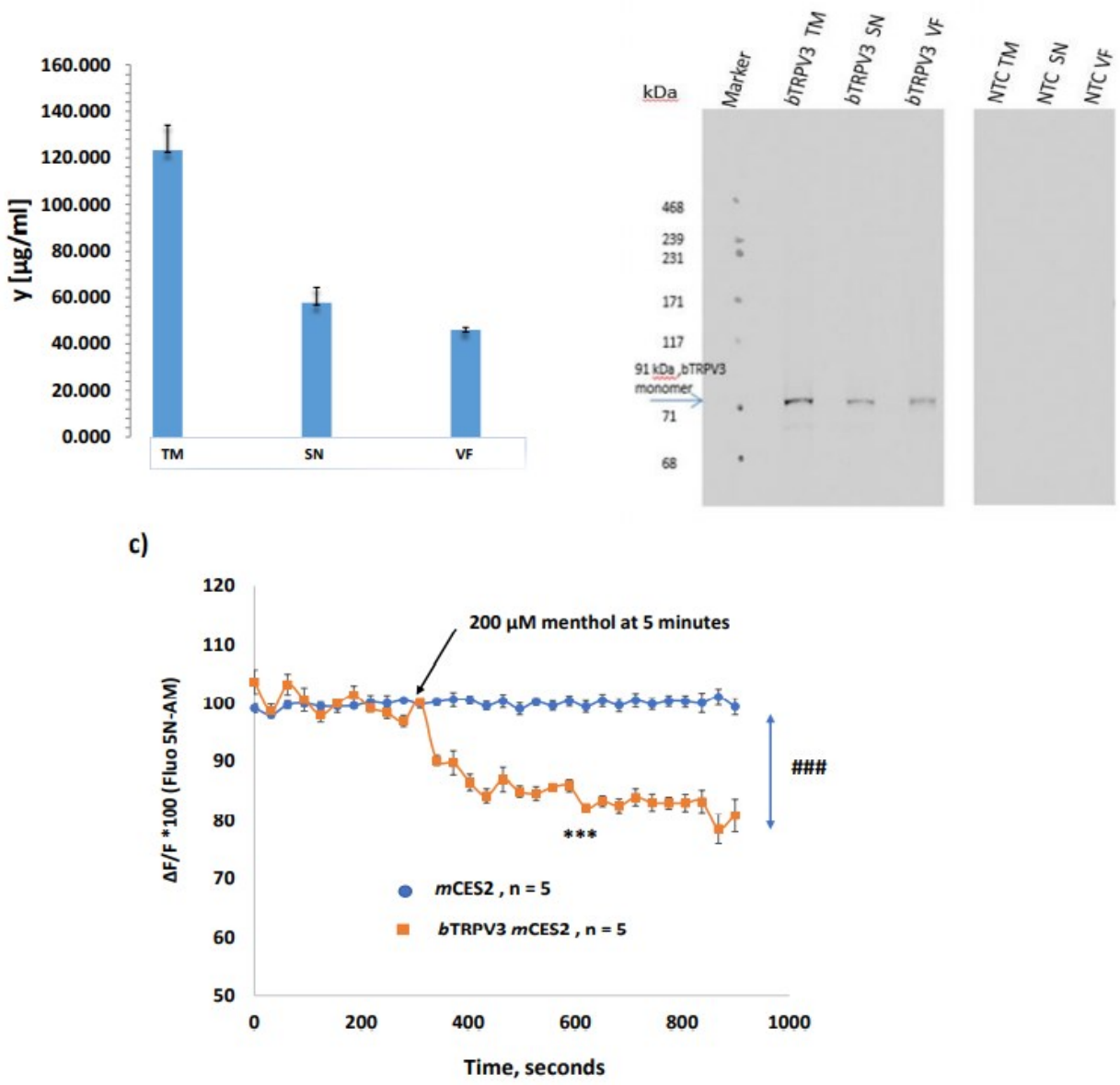

Fig 4: a) Protein yields of *b*TRPV3, bovine Transient Receptor Potential Channel Vanilloid Receptor member 3. by scintillation counting via CECF reaction for 24 h, 27 °C in *Sf*21 system; suspension and pellet correspond to translation mix and vesicular fraction correspondingly. The plasmid construct was similar to *h*TRPV1 construct as mentioned in this work. Data is represented as mean+/- S.E.M, n = 3, TM- Translation mix, SN- Supernatant, VF- Vesicular fraction. b) Autoradiogram of proteins run on SDS MES gel, no band was observed in Non-template Control microsomes and 91 kDa protein was observed in *b*TRPV3 samples; c) Calcium imaging of *m*CES2 and *b*TRPV3-*m*CES2 cell-free synthesized microsomes with menthol, 200 µM for activation of *b*TRPV3 functionality. Ca^{2+} release was observed only in *b*TRPV3-*m*CES2 microsomes, data is represented as deltaF/F *100 +/- S.E.M, of dye fluorescence, n=5 each. ### indicate the significant difference between the mCES2 samples and *b*TRPV3-*m*CES2 samples at 600 s, p value < 0.0001, unpaired t test, two tailed. *** indicate the significant difference of *b*TRPV3-*m*CES2 sample data at 150 s and 600 s, before and after menthol addition, p < 0.0001, Paired t test, two tailed.