

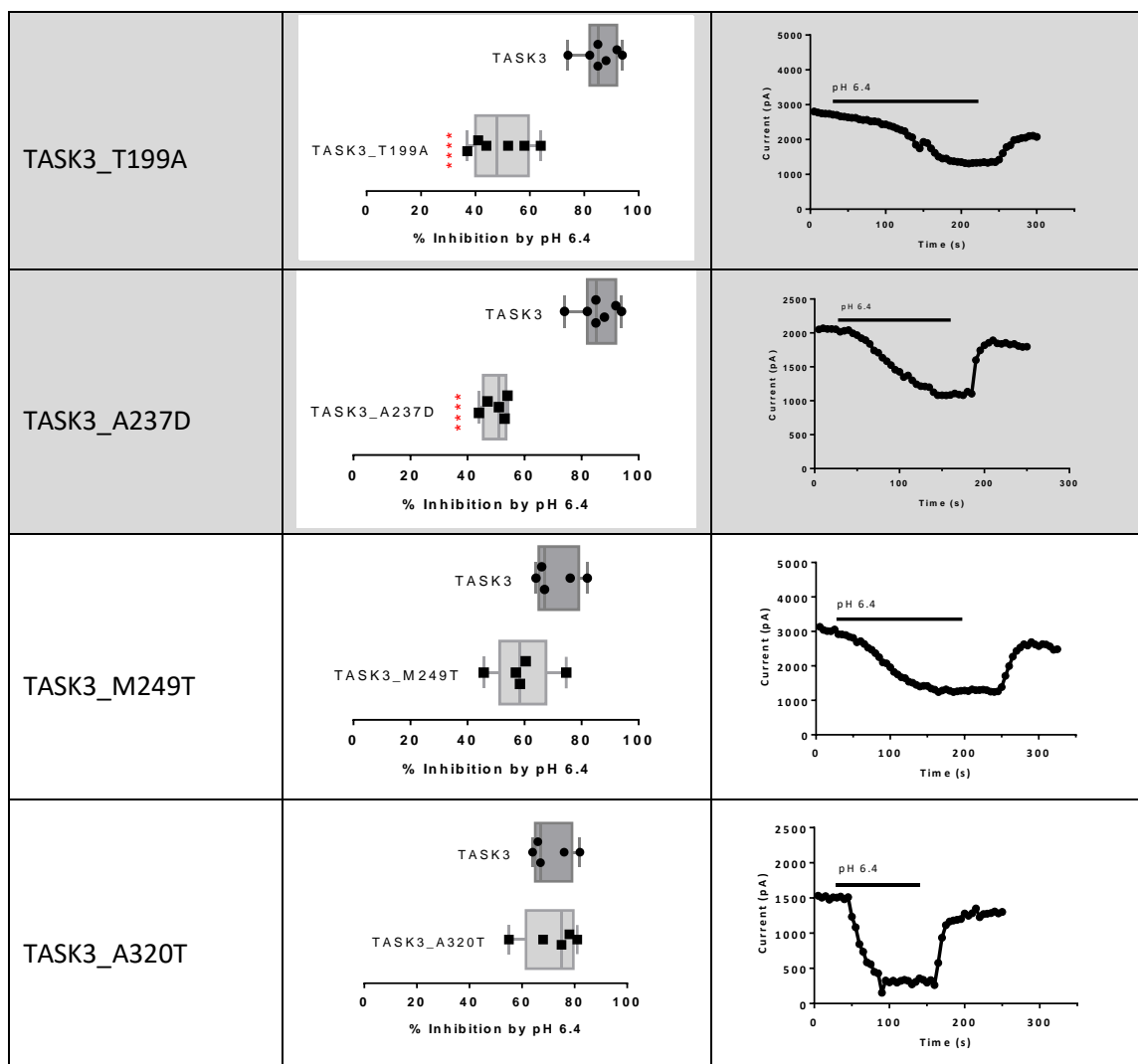
Gain and loss of TASK3 channel function and its regulation by novel variation cause *KCNK9* imprinting syndrome

Additional file 8

Table S4: A comparison of inhibition by extracellular acidification (pH 6.4) between TASK3 clinical variants and WT controls. Inhibition of current by pH 6.4 is calculated as the difference of current measured at pH 7.4, with that measured after exposure to pH 6.4, expressed as a percentage (%), displayed as a Box and Whiskers plot. Bars represent the min and max inhibition and lines the median inhibition, for each channel type. Points represent the individual data points. Sensitivity to extracellular acidification is represented in an exemplar time course plot demonstrating the effect of changing from an extracellular solution at pH 7.4, to one at pH 6.4 (black line). Each point is a 5 second (s) average of the difference current between that at -40 mV and that at -80 mV.

Clinical Variant	% Inhibition by extracellular acidification (pH 6.4)	Representative time course for inhibition by pH 6.4.
TASK3_G236R		
TASK3_R131C		
TASK3_R131H		

TASK3_R131P	<p>Dot plot showing % Inhibition by pH 6.4 for TASK3 and TASK3_R131P. TASK3 shows high inhibition (median ~85%), while TASK3_R131P shows significantly lower inhibition (median ~45%). Red asterisks indicate statistical significance.</p>	<p>Current-time plot for TASK3_R131P. Current (pA) starts at ~1800, drops to ~1000 during pH 6.4 application (0-150s), and recovers to ~1600.</p>
TASK3_R131S	<p>Dot plot showing % Inhibition by pH 6.4 for TASK3 and TASK3_R131S. TASK3 shows high inhibition (median ~85%), while TASK3_R131S shows significantly lower inhibition (median ~55%). Red asterisks indicate statistical significance.</p>	<p>Current-time plot for TASK3_R131S. Current (pA) starts at ~4500, drops to ~2000 during pH 6.4 application (0-150s), and recovers to ~4000.</p>
TASK3_M132R	<p>Dot plot showing % Inhibition by pH 6.4 for TASK3 and TASK3_M132R. TASK3 shows high inhibition (median ~85%), while TASK3_M132R shows significantly lower inhibition (median ~55%). Red asterisks indicate statistical significance.</p>	<p>Current-time plot for TASK3_M132R. Current (pA) starts at ~700, drops to ~350 during pH 6.4 application (0-150s), and recovers to ~750.</p>
TASK3_F135deletion	<p>Dot plot showing % Inhibition by pH 6.4 for TASK3 and TASK3_F135deletion. TASK3 shows high inhibition (median ~85%), while TASK3_F135deletion shows significantly lower inhibition (median ~55%). Red asterisks indicate statistical significance.</p>	<p>Current-time plot for TASK3_F135deletion. Current (pA) starts at ~400, drops to ~150 during pH 6.4 application (0-150s), and recovers to ~450.</p>
TASK3_M156V	<p>Dot plot showing % Inhibition by pH 6.4 for TASK3 and TASK3_M156V. TASK3 shows high inhibition (median ~85%), while TASK3_M156V shows significantly lower inhibition (median ~75%). Red asterisks indicate statistical significance.</p>	<p>Current-time plot for TASK3_M156V. Current (pA) starts at ~2000, drops to ~500 during pH 6.4 application (0-150s), and recovers to ~1800.</p>
TASK3_M159I	<p>Dot plot showing % Inhibition by pH 6.4 for TASK3 and TASK3_M159I. TASK3 shows high inhibition (median ~85%), while TASK3_M159I shows significantly lower inhibition (median ~55%). Red asterisks indicate statistical significance.</p>	<p>Current-time plot for TASK3_M159I. Current (pA) starts at ~4000, drops to ~2000 during pH 6.4 application (0-150s), and recovers to ~3500.</p>
TASK3_F164C	<p>Dot plot showing % Inhibition by pH 6.4 for TASK3 and TASK3_F164C. TASK3 shows high inhibition (median ~85%), while TASK3_F164C shows significantly lower inhibition (median ~75%). Red asterisks indicate statistical significance.</p>	<p>Current-time plot for TASK3_F164C. Current (pA) starts at ~2000, drops to ~500 during pH 6.4 application (0-150s), and recovers to ~1500.</p>



* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ and **** $p < 0.0001$ for between group differences determined using an unpaired Student's t-test. Boxes highlighted light blue represent a significant increase in sensitivity to extracellular acidification, whilst grey highlighted boxes represent a significant decrease in sensitivity and white highlighted boxes signify no recorded change in sensitivity from WT.