

TRPV4-mediates oscillatory fluid shear mechanotransduction in mesenchymal stem cells in part via the primary cilium

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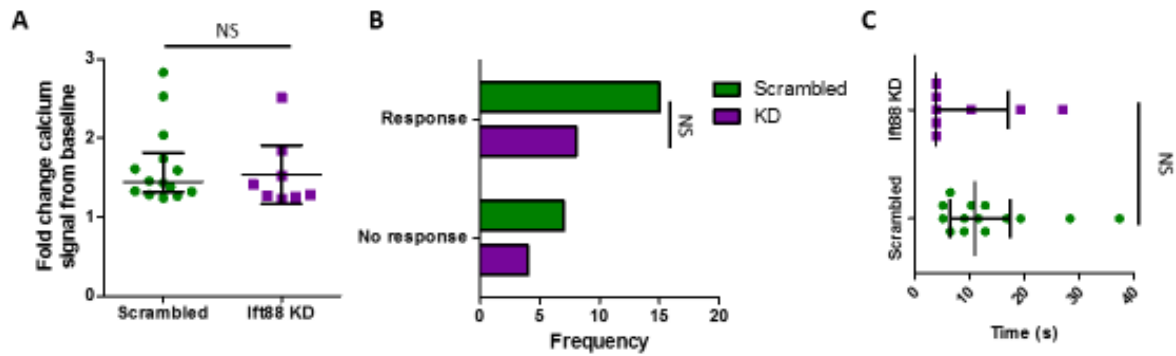
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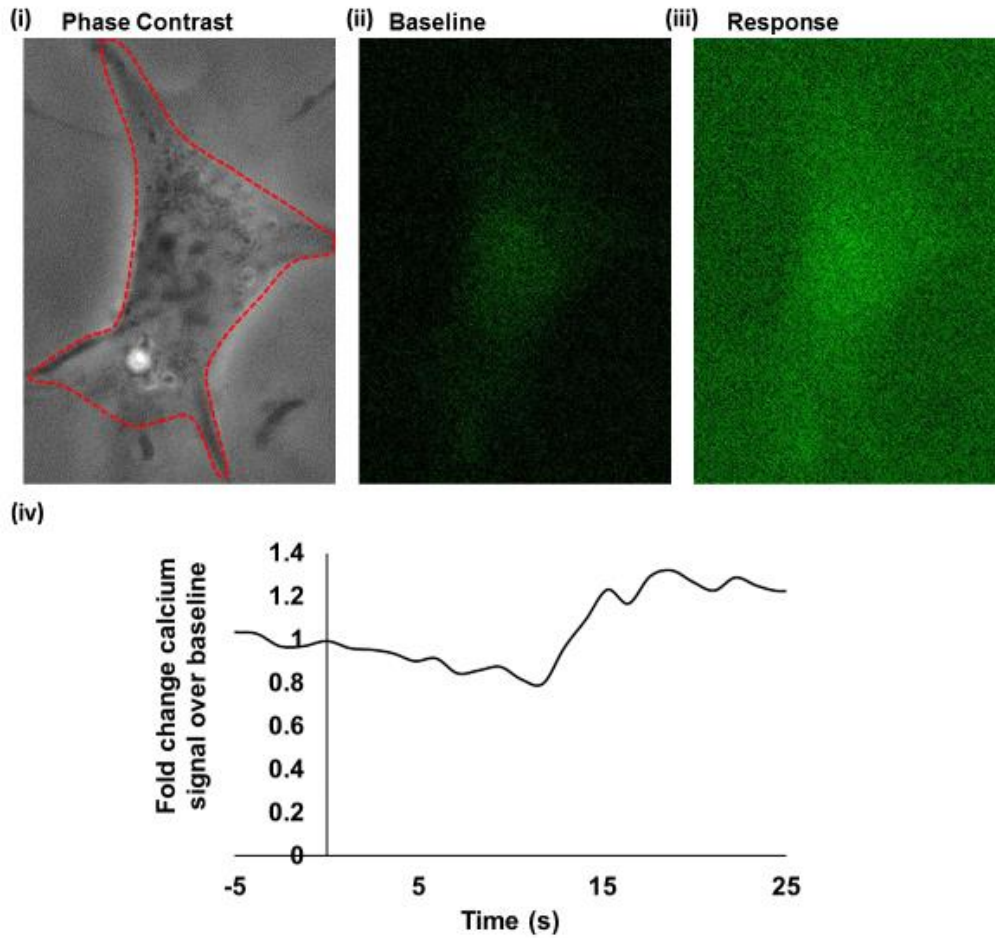
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Supplementary Figures:



Supplementary figure 1: (a) Median and interquartile range of fold increase in calcium at first peak following application of GSK101 in cells transfected with scrambled siRNA or siRNA targeting IFT88, Mann Whitney test, NS $p > 0.05$. (b) Frequency of calcium response in MSCs exposed to GSK101, Fisher's exact test, NS $p > 0.05$. (c) Time to first peak for individual cells following application of GSK101 at time 0s. Bars mark Median and interquartile range, Scrambled $N=4$, $n=20$, IFT88 KD $N=4$, $n=12$, Mann Whitney test, NS $p > 0.05$.



Supplementary Figure 2: Representative images of MSCs during calcium peak. **(i)** Phase contrast image of MSC at 40x (NA 0.6), red line marks the region where intensity is measured. **(ii)** **(iii)** Fluorescent image of same cell under 488nm filter, **(ii)** before calcium peak and **(iii)** at peak calcium. **(iv)** Trace of fluorescence signal for the cell in (i)-(iii) over time normalized to baseline control and corrected for background fluorescence.

Supplementary Table 1: Primer sequences and concentrations employed in quantitative PCR analysis.

Gene	Tm (°C)	Primer concentration	Sequence	Amplicon Size
18S	60	400 nM	5'-GTAACCCGTTGAACCCATT-3'	151bp
			3'-CCATCCAATCGGTAGTAGCG-5'	
Cox2	60	400 nM	5'-ACTCATAGGAGAGACTATCAAG-3'	147bp
			3'-GAGTGTGTTGAATTCAGAGG-5'	
Opn	60	400 nM	5'-GGATGAATCTGACGAATCTC-3'	188bp
			3'-GCATCAGGATACTGTTTCATC-5'	
TRPV4	60	1x	Mm00499025_m1	56bp