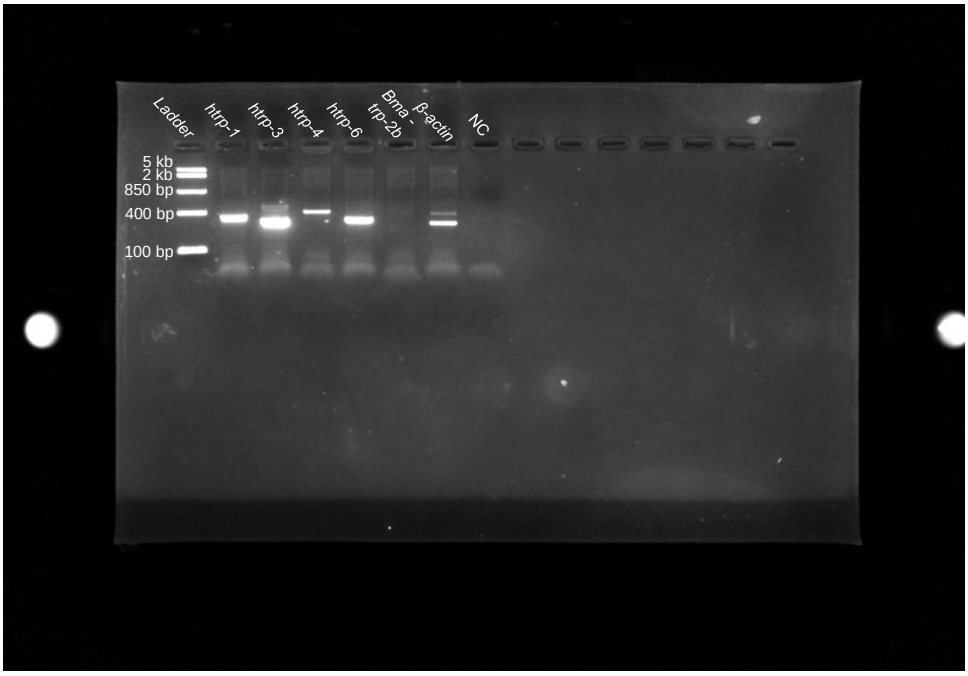
FIG. S1

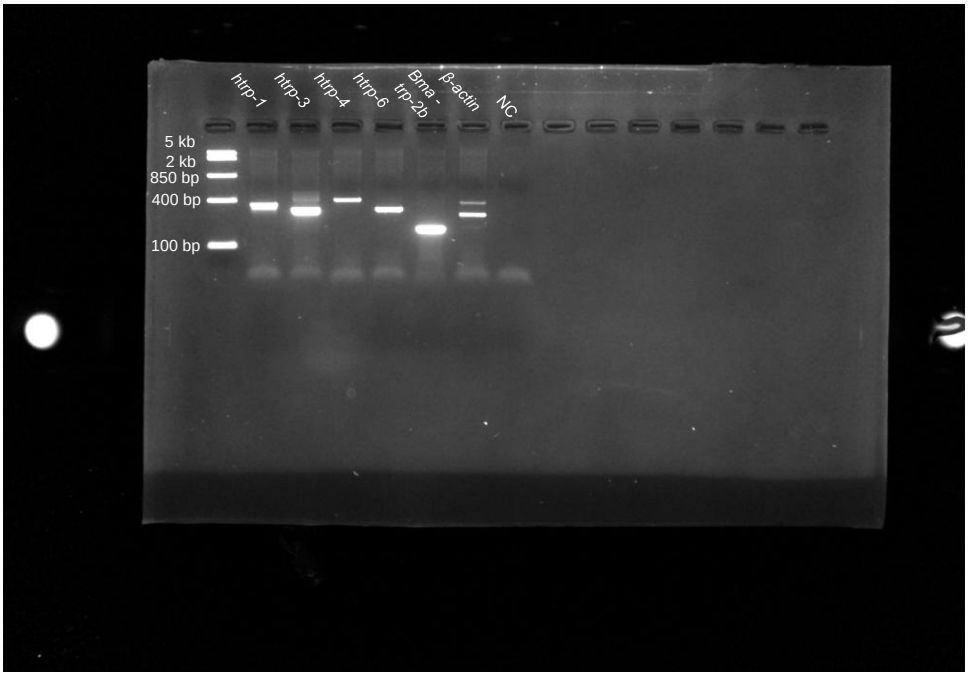
A

Non-transfected



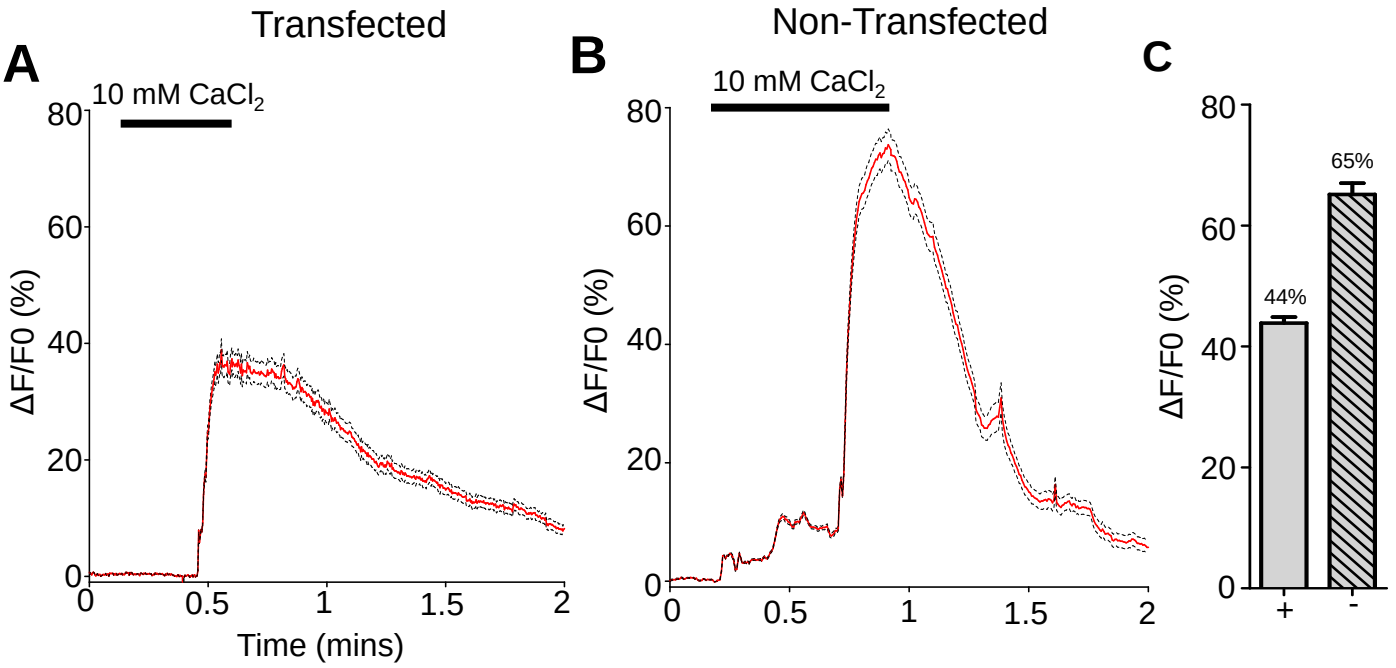
B

Bma-trp-2 transfected



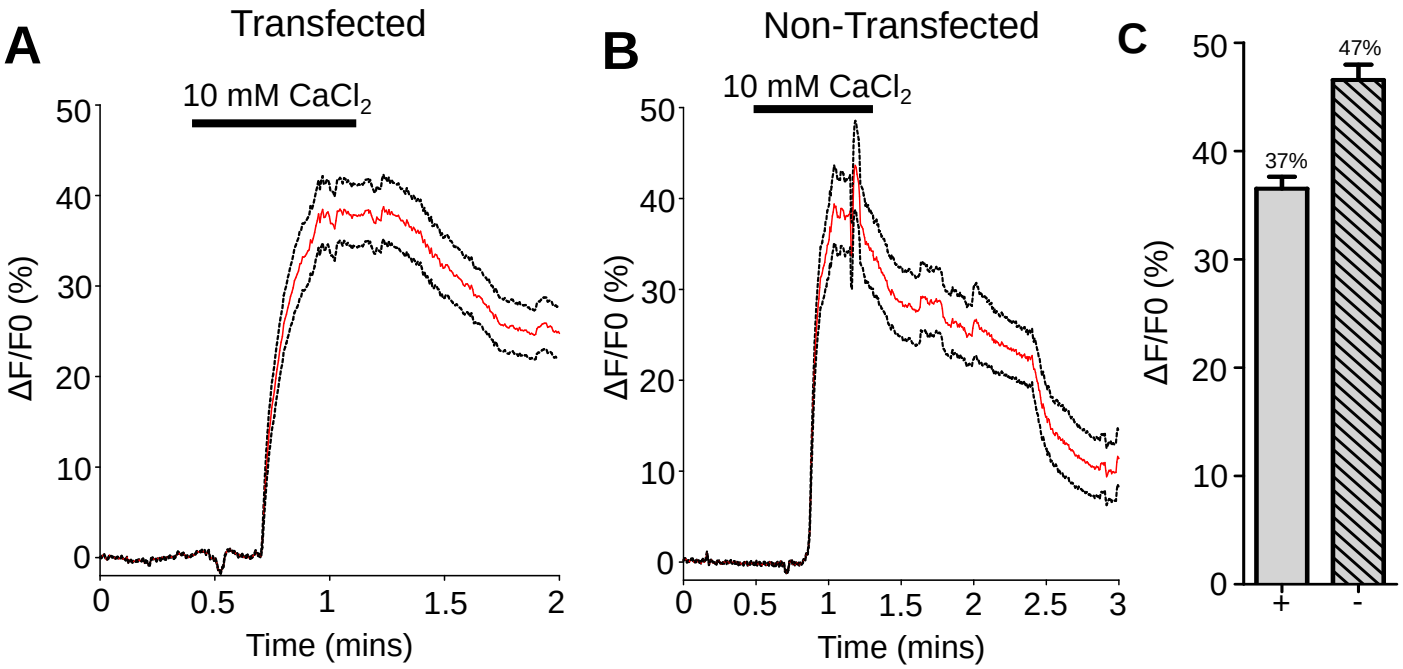
Supplementary Figure 1: Presence of endogenous TRPC channels and detection of *Bma-trp-2b* in HEK293 cells.
Original uncropped gel pictures from Fig. 1 showing RT-PCR analysis of endogenously expressed TRPC channels (*htrp-1, htrp-3, htrp-4 & htrp-6)* and *Bma-trp-2b* in non-transfected HEK293 cells (A) and transfected cells (B). Human *β-actin* was used as a positive control. N.C. = negative control, no cDNA template present. Ladder = FastRuler Middle Range DNA Ladder. Each lane represents one of the TRPC genes. Images were taken under UV light with an exposure setting of 3 seconds per 1 frame.

FIG. S2



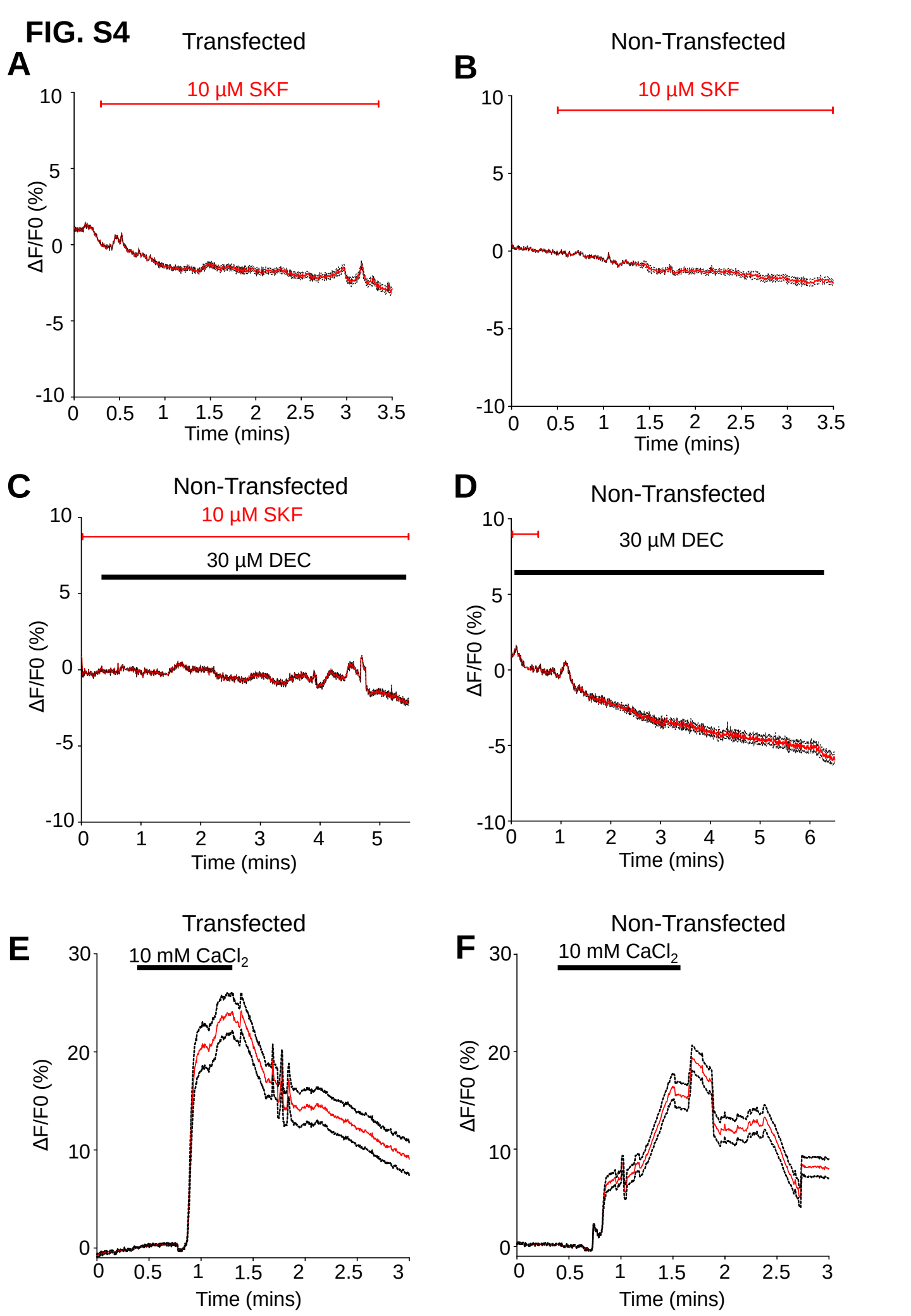
Supplementary Figure 2: Control 10 mM $CaCl_2$ calcium signals after carbachol and diethylcarbamazine treatment. A) Representative trace of a population of *Bma-trp-2b* transfected HEK293 cells from single recording in response to 10 mM $CaCl_2$ B) Representative trace of a population of non-transfected HEK293 cells from single recording in response to 10 mM $CaCl_2$. Horizontal bars indicate the $CaCl_2$ application. Red lines indicate average fluorescence; black dotted lines represent ±SEM for all traces. C) Maximal amplitudes of the $CaCl_2$ amplitudes in *Bma-trp-2b* transfected HEK293 cells, 43.9% (± 1%) (grey bar) and non-transfected HEK293 cells, 65.2% (± 1.8%) (grey hatched bar). *Bma-trp-2b* transfected HEK293 *n* = 449, non-transfected HEK293 *n* = 557. All values are represented as means ± SEM

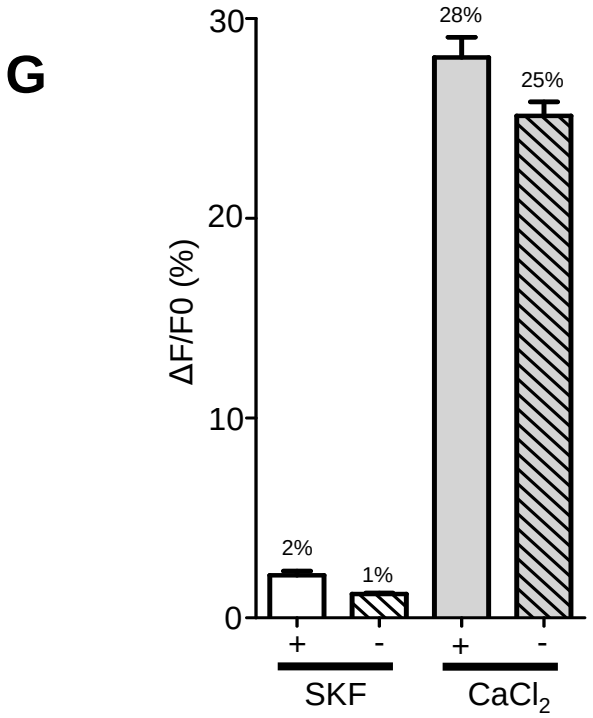
FIG. S3



Supplementary Figure 3: Control 10 mM $CaCl_2$ calcium signals after carbachol and arachidonic acid treatment. A) Representative trace of a population of *Bma-trp-2b* transfected HEK293 cells from single recording in response to 10 mM $CaCl_2$ B) Representative trace of a population of non-transfected HEK293 cells from single recording in response to 10 mM $CaCl_2$. Horizontal bars indicate the $CaCl_2$ application. Red lines indicate average fluorescence; black dotted lines represent ±SEM for all traces. C) Maximal amplitudes of the $CaCl_2$ amplitudes in *Bma-trp-2b* transfected HEK293 cells, 36.5% (± 1.1%) (grey bar) and non-transfected HEK293 cells, 46.6% (± 1.4%) (grey hatched bar). *Bma-trp-2b* transfected HEK293 *n* = 425, non-transfected HEK293 *n* = 444. All values are represented as means ± SEM

FIG. S4


A
Transfected
10 µM SKF
ΔF/F0 (%)
Time (mins)
B
Non-Transfected
10 µM SKF
Time (mins)
C
Non-Transfected
10 µM SKF
30 µM DEC
ΔF/F0 (%)
Time (mins)
D
Non-Transfected
30 µM DEC
ΔF/F0 (%)
Time (mins)
E
Transfected
10 mM CaCl2
ΔF/F0 (%)
Time (mins)
F
Non-Transfected
10 mM CaCl2
ΔF/F0 (%)
Time (mins)



Supplementary Figure 4: SKF inhibits diethylcarbamazine signaling A) Representative trace of a population of *Bma-trp-2b* transfected HEK293 cells from single recording in response to 10 µM SKF96365 B) Representative trace of a population of non-transfected HEK293 cells from single recording in response to 10 µM SKF96365. C) Representative trace of a population of non-transfected HEK293 cells from single recording in response to 10 µM SKF96365 + 30 µM diethylcarbamazine. D) Representative trace of a population of non-transfected HEK293 cells from single recording in response to 30 µM diethylcarbamazine after removal of SKF. E) Representative trace of a population of *Bma-trp-2b* transfected HEK293 cells from single recording in response to 10 mM $CaCl_2$. F) Representative trace of a population of non-transfected HEK293 cells from single recording in response to 10 mM $CaCl_2$. Horizontal bars indicate the drug applications. Red lines indicate average fluorescence; black dotted lines represent ±SEM for all traces. G) Maximal amplitudes of the SKF amplitudes in *Bma-trp-2b* transfected, 2.1% (± 0.2%) (white bar) and non-transfected, 1.2% (± 0.1%) (hatched bar) and $CaCl_2$ amplitudes in *Bma-trp-2b* transfected HEK293 cells, 28.1% (± 1%) (grey bar) and non-transfected HEK293 cells, 25.1% (± 0.7%) (grey hatched bar). *Bma-trp-2b* n = 11 total recordings, SKF = 39/244 cells, $CaCl_2$ *n* = 244 cells. Non-transfected *n* = 10 total recording, SKF = 8/293, $CaCl_2$ *n* = 293 cells. All values are represented as means ± SEM