Author Correction: Structure of the mechanically activated ion channel Piezo1

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Check for updates

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In this Article, we highlighted important residues that could affect Piezo1 gating. Accordingly, in Fig. 3 and Extended Data Fig. 7 of the Article, we measured mechanically activated currents from cells that express alanine substitution mutants (M2493A and F2494A) of residues that we predicted as the hydrophobic gate of the channel. Our experiments showed that the single mutants cause a gain-of-function phenotype (Fig. 3g–i). As a control, we also tested the double mutant M2493A/F2494A, which we found to be non-functional (Extended Data Fig. 7a,b).

Prompted by a recent request from a peer in the field, we re-sequenced the plasmid used for the M2493A/F2494A double mutant and found that there was a base-pair deletion immediately downstream of the mutagenesis site, resulting in a frameshift at the Piezo1 C terminus. We now think that the non-functionality of the channel arises from the frameshift and early truncation of the protein, and not from the double mutation. Indeed, Zheng et al.[1] demonstrated that the M2493A/F2494A mutation in Piezo1 is functional and results in a gain-of-function phenotype, consistent with our single-mutation results (figure 1d in ref. [1]). Therefore, Extended Data Fig. 7a,b in our Article is misleading owing to a mistake made when the original DNA sequencing was conducted. We re-sequenced the other plasmids used in Fig. 3 and Extended Data Fig. 7 of the Article and confirmed that they contain the correct mutations. The main conclusions from the mutagenesis experiments stated in the main text of our Article are not affected by this mistake, nor is the overarching purpose of the paper, which is to describe details of the Piezo1 channel structure. The original Article has not been corrected online.

1. Zheng, W., Gracheva, E. O. & Bagriantsev, S. N. A hydrophobic gate in the inner pore helix is the major determinant of inactivation in mechanosensitive Piezo channels. *Elife* **8**, e44003 (2019).