

Supplemental Material

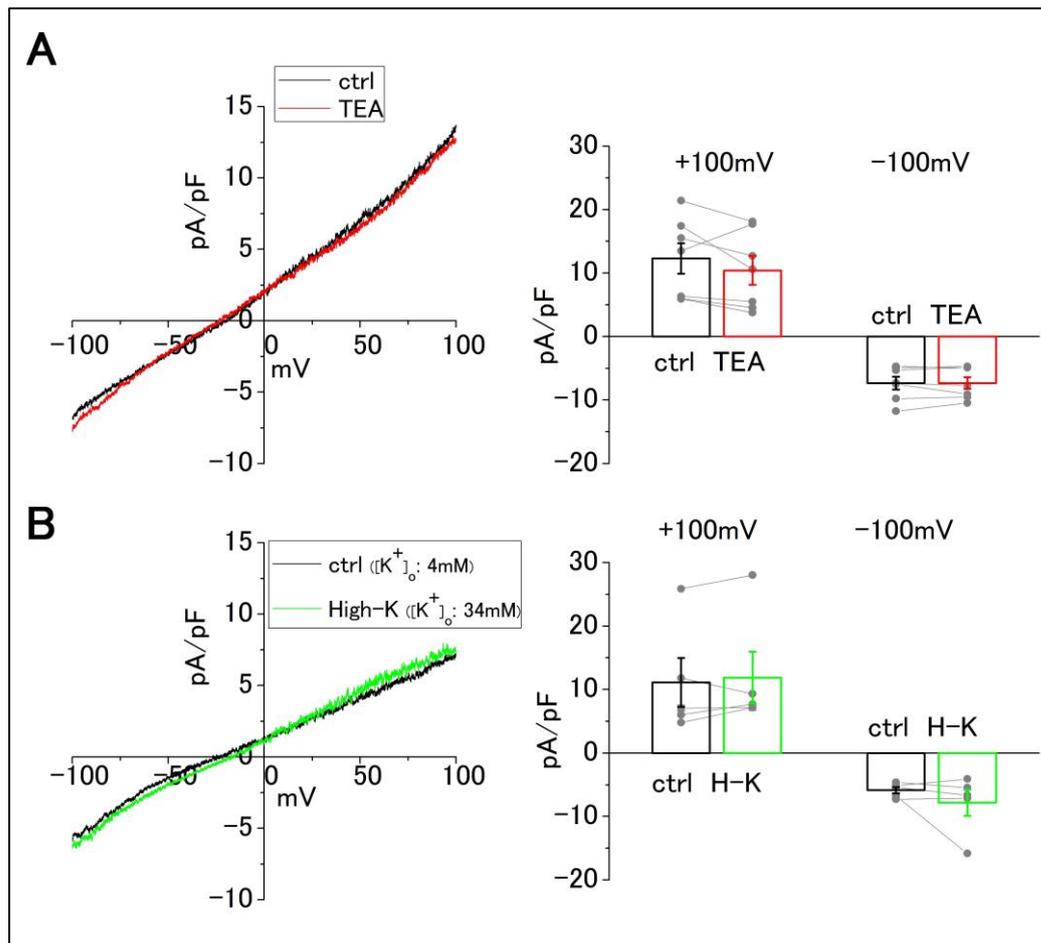
Acid-Sensitive Outwardly Rectifying Cl⁻ Current in OV2944 Mouse Ovarian Cancer Cells

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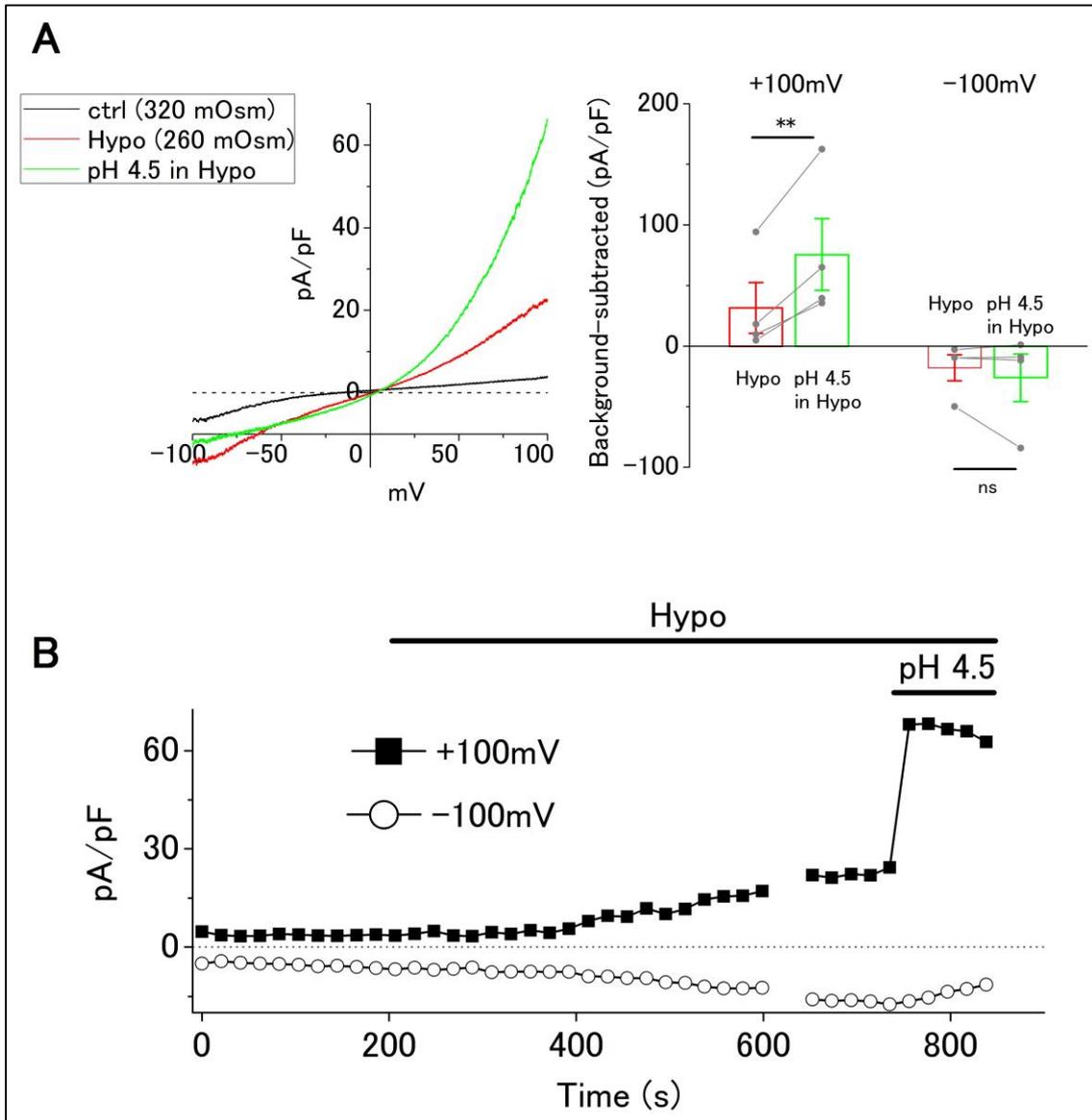
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| Used for experiments in | NaCl (mM) | KCl (mM) | Choline-Cl (mM) | TEA-Cl (mM) | Na ₂ SO ₄ (mM) | Mannitol (mM) | pH | Osmolarity |
|--------------------------|--------------|-------------|--------------------|----------------|---|------------------|-----------|------------|
| Fig.1 and 2 | 150 | 4 | — | — | — | — | 4.5 – 7.3 | Isotonic |
| Fig. 2A | — | 4 | — | — | 120 | — | 4.5 | Isotonic |
| Fig. 3 and Suppl. Fig. 2 | 120 | 4 | — | — | — | 60 | 7.3 | Isotonic |
| Fig. 3 and Suppl. Fig. 2 | 120 | 4 | — | — | — | — | 7.3 | Hypotonic |
| Fig. 3A | — | 4 | — | — | 95–100 | — | 7.3 | Hypotonic |
| Suppl. Fig. 1 | 120 | 4 | 30 | — | — | — | 7.3 | Isotonic |
| Suppl. Fig. 1A | 120 | 4 | — | 30 | — | — | 7.3 | Isotonic |
| Suppl. Fig. 1B | 120 | 34 | — | — | — | — | 7.3 | Isotonic |
| Suppl. Fig. 2 | 120 | 4 | — | — | — | — | 4.5 | Hypotonic |

Supplementary Table 1. Composition of extracellular solutions. All solutions contained 2 mM CaCl₂, 1 mM MgCl₂, 10 mM HEPES and 10 mM glucose. Isotonic and hypotonic solution were adjusted to 320–330 and 260–275 mOsm/kg, respectively.



Supplementary Fig. 1. Sensitivity of membrane current in OV2944 cells to extracellular TEA and K⁺. **A.** Left: Current–voltage relationship of the membrane current recorded with KCl-based patch solution and the effect of extracellular TEA. Extracellular 30 mM choline-Cl was replaced with an equimolar concentration of TEA-Cl. Right: Summary of current densities at +100 and –100 mV in the control and TEA groups. **B.** Left: Current–voltage relationship of the membrane current recorded with a KCl-based patch solution and the effect of extracellular K⁺. Extracellular 30 mM choline-Cl was replaced with equimolar concentration of KCl. Right: Summary of current densities at +100 and –100 mV in control and high-[K⁺]_o. (Bar: mean ± SEM; Circles: individual data)



Supplementary Fig. 2. Additional activation of ASOR current during activation of hypotonicity-induced current **A.** Left: Current–voltage relationship of hypotonicity-induced current recorded using the voltage pulse protocol and current activation by pH 4.5 in hypotonic condition. Right: Summary of current density at +100 and –100 mV under hypotonic condition and at pH 4.5 under hypotonic conditions (background-subtracted current; Bar: mean \pm SEM. * $p < 0.05$. ns: non-significant; Circles: individual data). **B.** Effect of pH 4.5 on hypotonicity-induced current at +100 and –100 mV