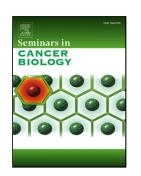
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Roles of pH and the Na⁺/H⁺ exchanger NHE1 in cancer:

From cell biology and animal models to an emerging translational perspective?

Running title: Roles of pH and NHE1 in cancer

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Abstract

Acidosis is characteristic of the solid tumor microenvironment. Tumor cells, because they are highly proliferative and anabolic, have greatly elevated metabolic acid production. To sustain a normal cytosolic pH homeostasis they therefore need to either extrude excess protons or to neutralize them by importing HCO₃⁻, in both cases causing extracellular acidification in the poorly perfused tissue microenvironment. The Na⁺/H⁺ exchanger isoform 1 (NHE1) is a ubiquitously expressed acid-extruding membrane transport protein, and upregulation of its expression and/or activity is

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