

Accepted Manuscript

Title: Roles of pH and the Na⁺/H⁺ exchanger NHE1 in cancer: From cell biology and animal models to an emerging translational perspective?

Author: Christian Stock Stine Falsig Pedersen



PII: S1044-579X(16)30079-7
DOI: <http://dx.doi.org/doi:10.1016/j.semcancer.2016.12.001>
Reference: YSCBI 1280

To appear in: *Seminars in Cancer Biology*

Received date: 30-11-2016
Accepted date: 10-12-2016

Please cite this article as: Stock Christian, Pedersen Stine Falsig. Roles of pH and the Na⁺/H⁺ exchanger NHE1 in cancer: From cell biology and animal models to an emerging translational perspective?. *Seminars in Cancer Biology* <http://dx.doi.org/10.1016/j.semcancer.2016.12.001>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

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

Christian Stock¹ and Stine Falsig Pedersen²

¹Department of Gastroenterology, Hannover Medical School, Carl-Neuberg-Str. 1, 30625 Hannover, Germany; ²Department of Biology, Section for Cell Biology and Physiology, University of Copenhagen, Universitetsparken 13, 2100 Copenhagen, Denmark

Correspondence to:

Christian Stock: Stock.Christian@mh-hannover.de, Department of Gastroenterology, Hannover Medical School, Carl-Neuberg-Str. 1, 30625 Hannover, Germany, phone: 0049-511-5322981

Stine Falsig Pedersen: sfpedersen@bio.ku.dk; Department of Biology, Section for Cell Biology and Physiology, University of Copenhagen, Universitetsparken 13, 2100 Copenhagen, Denmark, phone: 0045-35321546.

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

Download English Version:

<https://daneshyari.com/en/article/8361913>

Download Persian Version:

<https://daneshyari.com/article/8361913>

[Daneshyari.com](https://daneshyari.com)