Gmail

Successful Deposit: 10.1126/scitranslmed.3001922

deposits@openaccessbutton.org <deposits@openaccessbutton.org> Sun, Jan 3, 2021 at 8:25 AM
To: Joe@openaccessbutton.org

Hi,

Just now you got a new deposit that you can submission in the repository for the following paper:

Uroporphyrinogen Decarboxylase Is a Radiosensitizing Target for Head and Neck Cancer

The file is called “Correct Test Paper for 2 (22).docx”. You’ll find it attached and in Zenodo.

Do not reply to this email. If you have questions/problems, please click here.

Paper Metadata

Paper Title:

Uroporphyrinogen Decarboxylase Is a Radiosensitizing Target for Head and Neck Cancer

DOI:

10.1126/scitranslmed.3001922

Journal Title:

Science Translational Medicine

ISSN:

1946-6234

Publisher:

American Association for the Advancement of Science

Date of Publication:

2011-01-01

Volume:

3

Issue:

67

Page:

67ra7-67ra7

Author(s):

E. Ito, S. Yue, E. H. Moriyama, A. B. Hui, I. Kim, W. Shi, N. M. Alajez, N. Bhogal, G. Li, A. Datti, A. D. Schimmer, B. C. Wilson, P. P. Liu, D. Durocher, B. G. Neel, B. O'Sullivan, B. Cummings, R. Bristow, J. Wrana, F.-F. Liu

PMCID

PMID

21270338

Keyword:

General Medicine

Abstract:

Head and neck cancer (HNC) is the eighth most common malignancy worldwide, comprising a diverse group of cancers affecting the head and neck region. Despite advances in therapeutic options over the last few decades, treatment toxicities and overall clinical outcomes have remained disappointing, thereby underscoring a need to develop novel therapeutic approaches in HNC treatment. Uroporphyrinogen decarboxylase (UROD), a key regulator of heme biosynthesis, was identified from an RNA interference-based high-throughput screen as a tumor-selective radiosensitizing target for HNC. UROD knockdown plus radiation induced caspase-mediated apoptosis and cell cycle arrest in HNC cells in vitro and suppressed the in vivo tumor-forming capacity of HNC cells, as well as delayed the growth of established tumor xenografts in mice. This radiosensitization appeared to be mediated by alterations in iron homeostasis and increased production of reactive oxygen species, resulting in enhanced tumor oxidative stress. Moreover, UROD was significantly overexpressed in HNC patient biopsies. Lower preradiation UROD mRNA expression correlated with improved disease-free survival, suggesting that UROD could potentially be used to predict radiation response. UROD down-regulation also radiosensitized several different models of human cancer, as well as sensitized tumors to chemotherapeutic agents, including 5-fluorouracil, cisplatin, and paclitaxel. Thus, our study has revealed UROD as a potent tumor-selective sensitizer for both radiation and chemotherapy, with potential relevance to many human malignancies.