

ORAL PRESENTATION

Open Access

Metformin, mitochondria and cancer

Navdeep S Chandel

From Metabolism, Diet and Disease 2014: Cancer and metabolism
Washington DC, USA. 28-30 May 2014

Most cancers have intact mitochondria function and we previously showed that mitochondria metabolism and ROS is essential for tumorigenesis. However, there are a subset of cancers which arise from mutations which abolish activity of TCA cycle enzymes, including Fumarate Hydratase (FH) deficient renal cancer cells. While oxygen consumption is severely reduced in FH deficient human cancer cells, we uncovered that they are still dependent on mitochondrial metabolism and ROS for cell proliferation. Based on these results we propose that mitochondrial metabolism and/or ROS could be an attractive target for therapy. We will discuss the role of mitochondria in regulating cancer and how metformin might exert its anti-tumorigenic properties by inhibiting certain aspects of mitochondrial function.

Published: 28 May 2014

doi:10.1186/2049-3002-2-S1-O27

Cite this article as: Chandel: Metformin, mitochondria and cancer.
Cancer & Metabolism 2014 **2**(Suppl 1):O27.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



Department of Medicine, Feinberg School of Medicine, Northwestern
University, Chicago, IL, 60611, USA



© 2014 Chandel; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated.