Research objectives

We investigated the activation of YAP-1 by ROS-induced damage in HCC and the involved signaling pathway.

Research methods

The expression of YAP-1 was quantified using real-time PCR and immunoblotting. Human HCC cells were treated with H_2O_2, and with either YAP-1 small interfering RNA (siRNA) or control siRNA. MTS assays were performed to evaluate HCC cell proliferation. To investigate the signaling pathway, immunoblotting was performed. Eighty-eight surgically resected frozen HCC tissues and 88 nontumor paired liver tissues were used for gene expression analyses.

Research results

H_2O_2 treatment increased the mRNA and protein expression of YAP-1 in HCC cells. Suppression of YAP-1 resulted in a significant decrease in tumor proliferation during H_2O_2 treatment both *in vitro* and *in vivo*. The oncogenic action of YAP-1 occurred *via* the activation of the c-Myc pathway, leading to the upregulation of components of the unfolded protein response, including 78-kDa glucose-regulated protein and activating transcription factor-6 (ATF-6). The YAP-1 mRNA levels in human HCC tissues were upregulated by 2.6-fold compared with those in nontumor tissues and were positively correlated with the ATF-6 Levels.

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Cited by: 5 **Author:** Minjing Li, Jinliang Chen, Xiaofei Yu, Se...
Publish Year: 2019

The role of cellular reactive oxygen species in cancer ...

https://jeccr.biomedcentral.com/articles/10.1186/s13046-018-0909-x

Nov 01, 2018 · Most chemotherapeutics elevate intracellular levels of **reactive oxygen** species (ROS), and many can alter redox-homeostasis of cancer cells. It is widely accepted that the anticancer effect of these chemotherapeutics is due to the induction of oxidative stress and ROS-mediated cell injury in cancer. However, various new **therapeutic** approaches targeting ...

Cited by: 104 **Author:** Haotian Yang, Rehan M Villani, Haolu W...
Publish Year: 2018

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Feb 26, 2020 · The hepatitis B virus (HBV) infects approximately 240 million people worldwide, causing chronic liver disease (CLD) and liver cancer. Although numerous studies have been performed to date, unfortunately there is no conclusive drug or treatment for HBV induced liver disease. The hepatitis B virus X (HBx) is considered a key player in inducing CLD and **hepatocellular carcinoma** ...

Author: Dae-Yeul Yu **Publish Year:** 2020

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Cited by: 456 **Author:** Michelle Z. Xu, Tzy-Jyun Yao, ...
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Inhibition of PGC-1α expression and reduction of gluconeogenesis was shown to be required for the tumor promoting activity of the **Yes-associated protein 1** (YAP) **in hepatocellular carcinoma**. However, **yes-associated protein 1** (YAP-1) repression of PGC-1α did not affect the expression of mitochondrial genes, suggesting that inhibition of ...
Cited by: 10 **Author:** Tommaso Mello, Irene Simeon...
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Cited by: 3 **Author:** Jin-Ah Park, Han-Heom Na, Hy...
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https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6939652

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Author: Dae-Yeul Yu **Publish Year:** 2020