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Alcohol and Cancer Stem Cells.

Xu M¹, Luo J².

Author information

- 1 Department of Pharmacology and Nutritional Sciences, University of Kentucky College of Medicine, 1095 Veterans Drive, Lexington, KY 40536, USA. mxu222@uky.edu.
- 2 Department of Pharmacology and Nutritional Sciences, University of Kentucky College of Medicine, 1095 Veterans Drive, Lexington, KY 40536, USA. jialuo888@uky.edu.

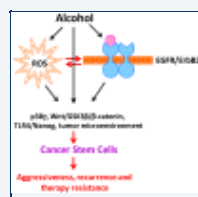
Abstract

Heavy alcohol consumption has been associated with increased risk of several cancers, including cancer of the colon, rectum, female breast, oral cavity, pharynx, larynx, liver, and esophagus. It appears that alcohol exposure not only promotes carcinogenesis but also enhances the progression and aggressiveness of existing cancers. The molecular mechanisms underlying alcohol tumor promotion, however, remain unclear. Cancer stem cells (CSC), a subpopulation of cancer cells with self-renewal and differentiation capacity, play an important role in tumor initiation, progression, metastasis, recurrence, and therapy resistance. The recent research evidence suggests that alcohol increases the CSC population in cancers, which may underlie alcohol-induced tumor promotion. This review discusses the recent progress in the research of alcohol promotion of CSC and underlying cellular/molecular mechanisms. The review will further explore the therapeutic potential of CSC inhibition in treating alcohol-induced tumor promotion.

KEYWORDS: HER2/ErbB2; alcoholism; carcinogenesis; metastasis; stemness

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