

学位論文審査結果の要旨

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<p>(学位論文審査結果の要旨)</p> <p>Taurine induces upregulation of p53 and Beclin1 and has antitumor effect in human nasopharyngeal carcinoma cells <i>in vitro</i> and <i>in vivo</i></p> <p>【主論文審査結果の要旨】</p> <p>著者らは論文において下記の内容を述べている。</p> <p>Taurine is an amino acid that has several physiological functions. Previously, we reported the apoptosis-inducing effect of taurine in human nasopharyngeal carcinoma (NPC) cells <i>in vitro</i>. However, the effect of taurine on NPC cell growth <i>in vivo</i> has not been elucidated. Autophagy plays an important role in cell metabolism and exhibits antitumor effects under certain conditions. In this study, we investigated the effects of taurine on apoptosis- and autophagy-related molecules in NPC cells <i>in vitro</i> and <i>in vivo</i>. In our <i>in vitro</i> study, NPC cells (HK1-EBV) were treated with taurine, and Western blot and immunocytochemical analyses revealed that taurine co-upregulated Beclin 1 and p53, with autophagy upregulation. In the <i>in vivo</i> study, we used a nude mouse model with subcutaneous xenografts of HK1-EBV cells. Once the tumors reached 2-3 mm in diameter, the mice were provided with distilled water (control group) or taurine dissolved in distilled water (taurine-treated group) ad libitum (day 1) and sacrificed on day 13. The volume and weight of the tumors were significantly lower in the taurine-treated group. Using immunohistochemistry (IHC), we confirmed that taurine treatment reduced the distinct cancer nest areas. IHC analyses also revealed that taurine promoted apoptosis, as evidenced by an increase in cleaved caspase-3, accompanied by upregulation of p53.</p>			

Additionally, taurine increased LC3B and Beclin 1 expression, which are typical autophagy markers. The present study demonstrated taurine-mediated tumor growth suppression. Therefore, taurine may be a novel preventive strategy for NPC.

タウリンがヒト由来上咽頭癌細胞株 HK1-EBV において、*in vitro* 及び *in vivo* でオートファジー関連分子とアポトーシス関連分子の発現を促進することを明らかにした。また、タウリンが *in vivo* で抗腫瘍効果を発揮し、上咽頭癌の治療または予防に有効である可能性を示した論文であり、学術上極めて有益であり、学位論文として価値あるものと認めた。

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