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The implementation of antioxidant (glutathione) of golden sea cucumber (*Stichopus herrmanni*) extracts in oral squamous cell carcinoma apoptosis

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One type of cancer is oral squamous cell carcinoma, which is the least studied due to lack of early detection and has become a serious problem in the field of oral health in Indonesia as a country which has a high number of active and passive smokers. The genus *Stichopus* has a great efficacy as an anticancer. A combination of amino acids that helps to synthesize the antioxidant glutathione can definitely reduce oxidant activity which causes cancer. The purpose of this research is to determine the effect of golden sea cucumber (*Stichopus hermanni*) extracts in apoptosis of oral squamous cell carcinoma. In this research, there were 25 of *Rattus norvegicus* strain wistar that were divided into five treatment groups i.e., untreated rats, rats with induction of carcinogen (DMBA solution), rats with treatment dose 0.33 g/kg weight, 0.6 g/kg weight and 0.99 g/kg weight. The result of this research was the appearance of buccal epithelial cells of the *Rattus norvegicus* showed apoptosis from immuno histochemical staining. There was an increase in apoptosis on treatment with a dose of 0.99 g/kg weight so that it can be concluded that the induction of golden sea cucumber (*Stichopus hermanni)* extracts to a treatment group affect the oral squamous cell carcinoma apoptosis.

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