CHAPTER VI

CONCLUSION

Two pigmented rice consumed in Thailand were studied for risk and benefit of consumption, as antioxidant activities, mutagenicity and antimutagenicity using Ames test. The present results showed that Hom Nil rice and black glutinous rice were good sources of antioxidants which might be appreciated by health concerning consumers. The polyphenolic content present in these rice extracts were mainly composed of anthocyanins. Moreover, neither Hom Nil rice nor black glutinous rice was mutagenic, but both of them exhibited mutagenicity when treated with sodium nitrite. Therefore, the black glutinous rice and Hom Nil rice were safe but consumers should avoid consume these rice with nitrite containing foods. In antiformation of mutagen property, consuming of cooked Hom nil rice together with food that contain mutagens, such as heterocyclic amines and polycyclic aromatic hydrocarbons, might reduce the risk of gastric carcinogenesis. Nevertheless, Hom Nil rice and black glutinous rice also inhibited the mutagenicity of such mutagens. The suggestion for the safety of consumers was consuming Hom Nil rice or black glutinous rice about 4 hours after meal may provide the protection against direct mutagen formed from the reaction between sodium nitrite and some convertible direct mutagen existed in cooked meat.