

**UNIVERSITI TEKNOLOGI MARA**

**CYTOTOXICITY OF COMPONENTS IN REBATEA TARIK AT  
24 HOURS OBSERVATION IN WRL-68 CELLS**

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## ABSTRACT

As we know, 'tea tarik' is one of the cultures in Malaysia. However, high calories and sweet taste of 'tea tarik' draw public concern for adverse health effects as it is prone to cause obesity and diabetes. Thus, RebATea tarik is produce to overcome these circumstances. RebATea tarik is expected to be a healthy and tasty tea tarik formulation which is safe to be consumed by the 'tea tarik' lover eventhough patient with diabetes. Therefore, this research project is performed to determine cytotoxicity of different component in RebaTea tarik at 24 Hours observation in normal human hepatic cells (WRL-68 cells). WRL-68 cells were treated with six concentration of different component in RebATea tarik and cytotoxicity was measured by using MTT (3-(4, 5-Dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide) assay. After 24 hours observation, all cells treated with rebaudioside A, skimmed milk, tea extract, and RebATea Tarik formulation showed low cytotoxicity level. Increasing pattern of cell viability was demonstrated by cells treated with skimmed milk which was above 100% while decreasing pattern was observed with cells treated with rebaudioside A which was not less than 82%. The cytotoxicity level of all components did not fall below than 70% cell viability. Based on this study, it can be concluded that component in RebATea tarik did not exhibit any harm or toxic to WRL-68 cells and this formulation is safe to be consumed by the 'tea tarik' lover.

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of study

Tea is a beverage enjoyed throughout the world. Malaysia is no exception where one of the favourite drinks of many Malaysian is the truly unique 'teh tarik'. 'Teh tarik' consists of black tea, sugar, and condensed milk mixed to frothy perfection. This drink becomes one of the cultures in Malaysia which can be commonly found in restaurants and outdoor stalls.

However, due to its sweet taste which contain high amount of sugar make people concern about its effect on health as consuming too much of it prone to cause obesity and diabetes. Sugars are carbohydrates which provide source of energy in our diet. However, consume too much sugar in diet can lead to many health problem such as diabetes, obesity and tooth decay. Natural sweetener such as white sugar, fructose, honey and corn syrup neither calorie-free nor bring beneficial dietary components especially for those who suffer from blood sugar disorders and other conditions (Thomas & Glade, 2010).

People with diabetes can have a small amount of sugar in their diet and should restrict or abstain food and drinks in which the main constituent is sugar. As result, it brings limitation to the obesity and diabetes patients to enjoy this sweetened