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DEVELOPMENT OF A PCR BASED METHOD FOR DETECTION OF *TP53* MUTATION FOR TUMOR PROTEIN p53 IN PROSTATE CANCER

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ABSTRACT

Prostate Cancer (PCa) is one of the diseases that are cause by genetic alteration in human genome. The development of this disease is known as polygenic and one of the genes that are responsible for the development and progression of this disease is *TP53* gene. Late detection of these diseases can cause the cancerous cells to metastasize to other organs and can lead to invasion of other organs resulting in more severe complications and eventually death. Early detection of the development of this disease is crucial in reducing the morbidity and mortility rate thus can provide us with precautions steps especially with person who are at greater risk in developing this disease. Five DNA samples were selected randomly and a PCR-based method was developed to assist early detection of genetic alteration in *TP53* gene among individuals at risk of prostate cancer.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Cancer can be due to mutations that occur on different genes. Besides, genetically inherited mutated genes also can give rise to higher chance of developing cancer. Inherited prostate cancer can be defined when a person with cancer are related to three or more first degree relatives with prostate cancer, or more that 2 close relatives such as grandfather, father, or brothers on the same side of the family had been diagnosed with prostate cancer (Yu & Hahn, 2005).

Tumor can be divided to two types, which are benign tumor and malignant tumor. Benign tumor is a localized tumor that only affects localized area. Usually it is not life threatening. However, in malignant tumor, cancer can spread to other parts or organs of the body thus later can cause body's system failure. This without any doubt can cause a life-threatening event.