

## **ABSTRACT**

Indonesia was the fourth largest coffee producer in the world in 2014, thus it is safe to say that Indonesians love to drink coffee. The consumption of coffee has its health benefits and its risks, one of the risks is mostly related to cardiovascular diseases. One of the diseases is hypertension which is considered “the silent killer” as it is a serious condition which promotes other complications and typically has no symptoms for a period of time until it has done significant damage. Stroke is one of the conditions that is primarily caused by hypertension. Stroke is a very serious medical condition where the blood flow to the brain is poor, causing the death of cells within the brain. Some medications, surgeries and other healthcare programs are capable of controlling stroke, but stroke still remains to be the main cause of death and disability in Indonesia. Multiple studies show that coffee consumption actually can reduce the risk of getting a stroke, by consuming between 2 to 4 cups of coffee per day. Additionally, coffee can reduce the likelihood of blood clots from forming and is likely to alter the blood vessel physiology. Therefore, the current project will explore the possibility of utilization of bioactive compounds other than caffeine from coffee beans that can be implemented in a form of supplements to help in treating patients both with stroke symptoms and during the recovery phase. Protein docking analysis is an alternative way to search and predict for drug discovery. Through protein docking analysis we can gain information on the bioactive compounds and their respective interactions with the target.

***Keywords: Coffee protein, Protein Docking Analysis, Biological Pathway, Bioactive Compounds***