ABSTRACT

AMPLIFICATION OF GEN STX1A (Syntaxin 1A) AS A PRELIMINARY STAGE TO IDENTIFY THE GEN’S MUTATION ASSOCIATED WITH THE LEVEL OF INTELLIGENCE QUOTIENT (IQ)

By

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Intelligence is influenced by various original internal or external factors. One of the internal factors that influence intelligence is genetic. There are several genes that affect a person's intelligence, one of which is STX1A gen. This research's aims to determine the optimal PCR conditions to amplify STX1A genes.

The research was conducted in November 2014 until March 2015 which took place in Biomolecular and Biochemistry Laboratory of Medical Faculty and Biotechnology Laboratory of Agriculture Faculty, University of Lampung. The research had undergone several processes and were carried out using in vitro method, ie; blood sampling, DNA isolation, PCR amplification with annealing temperature 52°C, 53°C, 55°C, 57°C, 59°C. The results of PCR amplification were read by using electrophoresis machine.

The results of the research indicated that STX1A genes could not be amplified with different annealing temperatures. It was influenced by various factors such as primary design which is less appropriate for PCR, too much Mg²⁺ in the Master Mix being used, inappropriate annealing temperature, and concentration of the unknown DNA.

Keywords: Electrophoresis, Gene STX1A, Intelligence, Polymerase Chain Reaction,