Diversity and Potential Exploration of Extremophile from Indonesian Local Isolates

Akhmaloka

Biochemistry Research Division, Faculty of Mathematics and Natural Science
Institut Teknologi Bandung, JL.Ganesha No 10 Bandung, 40132
loka@chem.itb.ac.id

Abstract. Nowadays, research on extremophilic microorganism has extensively been carried out since the organisms offer many advantages both for development of basic sciences and industrial application. Indonesia lies in ring of fire with many volcanoes which are rich of hot Spring as natural habitat of extremophilic microorganism. A number of extremophilic microorganisms have been identified from natural sample based on DGGE and ribotyping analysis through both of culture-independent and culture-dependent strategies. Two extremozymes namely DNA Pol I and Lipase have been isolated, cloned, sequenced, and characterized. Both enzymes which were produced from the local isolate of extremophilic microorganism can be developed to increase scientific knowledge of thermostable and halostable enzyme and applied in biotechnological industry.

Keywords: Extremophile, microorganisme, diversity, DNA Pol I and Lipase