

Populasi bakteri pada tanah bekas buangan limbah merkuri tambang emas di Kabupaten Bolaang Mongondow : penelitian pendahuluan

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Abstrak

Mercury is one of the most toxic heavy metals found in nature. Although adverse health effect of mercury have been known for a long time, exposure to mercury continues and is even increasing in some areas, for example, mercury is still used in gold mining in many parts of North Sulawesi Province. Most of the soil and aquatic bacteria that are continuously exposed to mercury usually develop a genetic adaptation to resist the toxicity of this compound. Bacteria have a specific operon called merOperon that functions to coordinate genes coding for proteins and enzymes involved in mercury disposal and detoxification. Therefore, this preliminary study aims to isolate and identify bacteria collected from gold mining area in the district of Bolaang Mongondow. Bacteria were isolated from soil samples collected from three locations of the gold mining waste disposal and the isolated bacteria were grown in agar media. Identification of the grown bacteria were then be performed using morphological, physiological and biochemical tests. The results showed that 36 bacteria were successfully isolated, of which, 11 isolates were gram positive bacteria and the remainders were gram negative. All isolates showed motility and all could be grouped into 4 species i.e. *Bacillus* sp., *Escherichia coli*, *Enterobacter cloacea*, and *Enterobacter aerogenes*.