

## **Partial purification of the molybdenum-reducing enzyme from *Bacillus pumilus* strain Lbna**

### **ABSTRACT**

Molybdenum is an emerging pollutant. Bioremediation of this heavy metal is possible by the mediation of Mo-reducing bacteria. These bacteria contain the Mo-reducing enzymes that can convert toxic soluble molybdenum into molybdenum blue; a less soluble and less toxic form of the metal. To date only the enzyme has been purified from only one bacterium. The aim of this study is to purify the Mo-reducing enzyme from a previously isolated Mo-reducing bacterium *Bacillus pumilus* strain Lbna using ammonium sulphate fractionation followed by ion exchange and then gel filtration. Two clear bands were obtained after the gel filtration step with molecular weights of 70 and 100 kDa. This indicates that further additional purification methods need to be used to get a purified fraction. Hence, additional steps of chromatography such as hydroxyapatite or chromatofocusing techniques can be applied in the future.

**Keyword:** Molybdenum; Mo-reducing enzyme; Ammonium sulfate fractionation; Gel filtration chromatography; SDS-PAGE