

عنوان مقاله:

Heavy Metals and Antibiotic Co-Resistance in Bacterial Isolates of Industrial Effluents

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خلاصه مقاله:

Heavy metal and antibiotic co-resistance is a global issue. The goal of this research was to explore the heavy metal, also antibiotic resistance patterns of effluent bacterial isolates. Heavy metal resistant bacteria were isolated from effluents and their Minimum Inhibitory Concentration (MIC) was determined. The Multi-Metal resistance (MMR) pattern and antibiotic resistance trait of isolates were defined. The MIC of Cu^{2+} , Pb^{2+} , Cd^{2+} and Zn^{2+} was ۴، ۸، ۱۲ and ۲۴ mM/L, respectively. Most of the isolates indicated the Cd^{2+} , Pb^{2+} and Zn^{2+} resistance and high resistance to the most tested antibiotics. The ۱۶S rDNA gene sequences of resistant isolates were handed over to NCBI-GenBank as *Staphylococcus* sp. ATHA۲(JX۱۲۰۱۵۱) and *Klebsiella oxytoca* ATHA۱(JQ۹۲۸۵۷۴). Correlation was found between metal tolerances, heavy metal concentration, also antibiotic resistance in bacteria. Thus, it is important to not only be aware of antibiotics misapplication, but also respond to excessive discharge of effluent containing heavy metals to the environment.

کلمات کلیدی:

Antibiotic, Bacteria, Co-Resistance, heavy metals, Industrial Effluent

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