

## Comet assay with gill cells of *Mytilus galloprovincialis* endpoints tools for biomonitoring of water antibiotic contamination: Biological treatment is a reliable process for detoxification

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This work investigates the ability of *Pseudomonas peli* to treat industrial pharmaceuticals wastewater (PW). LCMSMS analysis revealed the presence, in this PW, of a variety of antibiotics such as Sulfathiazole, Sulfamoxole, Norfloxacin, Cloxacillin, Doxycycline and Cefquinome. *P. peli* was very effective to grow in PW and induce a remarkable increase of chemical oxygen demand (COD) and Biochemical oxygen demand (BOD) (140.31% and 148.51% respectively). On the other hand, genotoxicity of the studied effluent, before and after 24h-shaking incubation with *P. peli*, was evaluated *in vivo* in the Mediterranean wild mussels *Mytilus galloprovincialis* using comet assay for quantification of DNA fragmentation. Results show that PW exhibited a statistically significant ( $P < 0.001$ ) genotoxic effect in dose dependent manner, indeed, the percentage of genotoxicity was 122.6 and 49.5% after exposure to 0.66 ml/kg bw; 0.33 ml/kg bw of PW, respectively.

However, genotoxicity decreased strongly when tested the PW obtained after incubation with *P. peli*. We can conclude that genotoxicity, using Comet assay, endpoints are useful tools to biomonitor the physicochemical and biological quality of water. We can conclude that *P. peli* can treat and detoxify the studied PW.

### Biography

Hedi Ben Mansour has completed his Ph.D. at age of 28 years from Caen-Basse Normandie French and postdoctoral studies from Caen University (IUT-Caen) and University habilitation from Manouba University - Tunisia. He is the director of "Micropollutant & bioremediation" research unit in Sidi Thabet city Manouba University (Tunisia). He has published 1 book; more than 41 papers in reputed journals and has been serving as an editorial board member of repute. He has obtained International prize for the young francophone researchers (Mail 2013) discipline "Science and Medicine" Sao Paulo - Brazil.

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