



# Antibiotic-resistant NDM-1 gene found in pristine Arctic

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## **Scientists are surprised by the detection of the gene, first isolated in India, in one of the earth's most remote spots**

- The recent detection of the antibiotic resistant (AR) gene NDM-1, first isolated in India, in the Arctic region is a further indication of the globalisation of antimicrobial resistance, said a study.
- The research was conducted in the High Arctic zone (Kongsfjorden region of Svalbard) and scientists were surprised to find a rather robust presence of NDM-1.
- In essence, AR is a natural phenomenon. Most antibiotics are produced by soil microorganisms and over time they have evolved to become resistant to the compounds which they excrete to survive.
- However, finding NDM-1 in 2013 was a surprise.

### **Five clusters**

- Researchers noted in their paper, in the peer reviewed journal Environment International, that it was detected in five out of the eight clusters studied.
- NDM-1 was first reported in 2007 in a patient admitted to a hospital in New Delhi, but was reported to be present in Germany, the same year.
- Additionally, researchers discovered levels of mobile genetic elements (MGEs), the mechanism by which bacteria 'trade' AR, to mirror NDM-1.
- MGEs are noteworthy here because they are often associated with 'acquired' resistance and are found at higher levels in human, or animal waste-impacted environments," study said.

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