

Sample article review on chemistry in current events

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Superbugs: The Bright Side

The term 'superbug' is grossly scary to the general public and is used for a resistant strain/species of a micro-organism that does not die easily. Such species are known to have developed a gene/segment of a gene that imparts the resistance to antibiotics and related drugs. These genes/gene segments are closed loops of deoxyribonucleic acid (DNA), the genetic material present in humans as well as bacteria. In many bacteria, this DNA is not present inside the nucleus (as is the case with humans). However, it is present in the cytoplasm (extra-chromosomal DNA) and is called as plasmid. Scientists have developed plasmids with 'artificially inserted genes' by genetic engineering. Figure 1 presents the general methodology of making a recombinant plasmid.

The genetically engineered microorganisms (GEMs) with these recombinant plasmids are also known as superbugs and have certain special characters that may be utilized to address the growing problem of environmental pollution. Superbugs have been developed for specifically eating away the herbicide 2, 4, 6-T. Similarly, Chakrabarty superbug was developed and used to eat up the toxic organic chemicals like octane, hexane, xylene, toluene, camphor and naphthalene. The same superbug was further used to clean an oil spill in Texas. More superbugs are being developed to clean up the industrial effluents from leather, textile, fertilizer and pharmaceutical industries.

Works Cited

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