

- macromolecular prodrugs (drug-polymer conjugates)¹;
- polymeric micelles²
- interaction complexes³ (polymer/protein complex);
- polyplexes⁴ (polymer-DNA complexes);
- nanoparticles⁵.

References

- 1) G. Cavallaro, L. Maniscalco, M. Campisi, D. Schillaci, G. Giammona, Eur. J. Pharm. Biopharm., 66, 182-192 (2007).
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- 3) M. Licciardi, G. Giammona, G. Cavallaro, G. Pitarresi, 2008. International Application number PCT/IT/2008/000376.
- 4) G. Cavallaro, M. Licciardi, S. Scirè, M. Di Stefano, G. Giammona. Nanomedicine, 5, 243-258, (2010).
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Mitochondrial Dna deletions and male infertility

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In men, oligozoospermia, asthenozoospermia, teratozoospermia and azoospermia are the main causes of infertility. The present research is aimed to investigate if mtDNA deletions can cause sperm defects in idiopathic asthenozoospermic patients with different sperm motility and sperm concentration.

The aim of this investigation was to test the hypothesis that whole sperm samples with lower levels of motility would have a higher incidence of spermatozoa with deletions in mitochondrial genome. We were able to evidence Δ mtDNA when the DNA was amplified from the non motile fraction from semen samples or whether DNA from whole sperm samples was employed long PCR.

In conclusion this study have demonstrated that the use of LPCR clearly indicated Δ mtDNA in patients

OAT also with small amount of whole seminal samples. A further indication is that the ND5 and ND6 mtDNA region were preferentially associated to deletions with poor quality semen characteristic.



Genotoxicity of terpenes present in wastewater of a citrus transformation factory in bacterial and mammalian cells and effectiveness of photocatalytic degradation.

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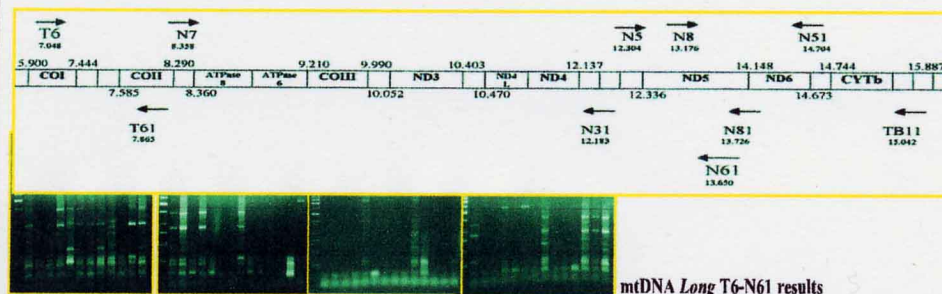
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The aim of this work was to compare the genotoxic responses of mixtures of terpenes present in wastewaters of a citrus transformation factory with the genotoxicity of the individual compounds. Samplings of wastewater collected before (untreated sample) and past water purification by biological method (treated sample) were analyzed using Solid Phase Micro-extraction (SPME) followed by GC analyses. The chromatograms showed in all effluents the presence of four terpenes: α pinene, β -pinene, 3-carene, D-limonene. The concentrations of terpenes in the untreated sample were 1–3 orders of magnitude higher than in the treated sample.

Genotoxicity was evaluated in the Salmonella reversion assay (Ames test) and in V79 cells by comet assay, by utilizing aqueous solutions the four terpenes at concentrations corresponding at those determined by SPME. In the Ames test, when



PCR product	Long T6 – N61
wt	n. 14 pat.
Δ	n. 30 pat.
(-)	n. 6. pat.
Tot. n. paz.	50