Animal-Cell Biotechnology

The effect of suckling on milk production, milk composition and milk somatic cell count in goats

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This study was carried out to investigate the effect of suckling on milk yield, milk composition and milk somatic cell count (MSCC) in goats. 20 head of Saanen goats was used in the experiment. Dairy goats divided into control group (no-suckled) and treatment group (suckled). The milk controls were made at 3 periods with 15 days interval. The suckling was found to lead to 20% increase in milk yield compared to control group, but no effect was determined in terms of milk protein and milk fat contents. There was a significant difference between the groups in terms of MSCC ($P < 0.01$), but this difference was eliminated by suckling. It was concluded that, suckling which has a tendency to increase milk yield, was found to have significant effect on MSCC.

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Commet assay in animal genetic

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The alkaline (pH > 13) single cell gel electrophoresis (Commet assay) is a cheap, rapid and useful method for the detection of DNA damage detection since the protocol was published by Singh et al. in 1988. Comet assay analysis can be considered as a few episodes of experimental phases. First section samples are lysed with lysing solution (ph:10). Second section, samples electrophoresis in pH > 13 condition. Than ph of samples, are reduced 7.5 with neutralization solution. During electrophoresis step the amount of cell migration puts DNA damage for each cell. Comet analysis is using for detecting DNA damage in different topic areas as animal genetics, analysis of foods have been exposed to radiation, molecular epidemiology and genetic ecotoxicology. Also comet assay analysis is extensively used in human studies for detection of DNA damage formed by various factors. Aim of this study is a review of the investigations that use Comet assay in animal genetic studies.

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Biopharmaceuticals

In vitro antioxidant activities of different extracts from *Chrysanthemum fontaniisi* and *Rhantherium suaveolens*

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Antioxidant activities of (butanol and ethyl acetate fractions) from *Chrysanthemum fontaniisi* and *Rhantherium suaveolens* were studied *in vitro*. The inhibition of malondialdehyde formation and the scavenging of DPPH were assayed. Also, phenolic contents were determined. The extracts showed a high antioxidant effect, especially scavenging of DPPH anions and inhibition of lipid peroxidation compared to standard antioxidants such as vitamin C. The total content of phenolic compounds of *C. fontaniisi* and *R. suaveolens* were respectively 502 μg, 240 μg (ethyl acetate fractions) and 349 μg, 323 μg (butanol fractions) of Gallic acid equivalents/mg extract. Different extracts of *C. fontanisii* and *R. suaveolens* contain a number of antioxidant compounds which can effectively scavenge reactive oxygen species and inhibit lipid peroxidation.

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Comparison of four liposome formulations on *Streptococcus mutans*

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Drug delivery systems designed for use in the oral cavity, for therapeutic purposes are fast becoming an area of great interest. The purpose of this study was to compare four liposome formulations for their efficient encapsulation potential, stability and antimicrobial activity on *Streptococcus mutans* (ATCC 25175). Liposomes P85G (7:1:2); P85G (10:1:4); P100H (7:1:2); P100H (10:1:4), were prepared with different ratios of phospholipids, cholesterol and stearylamines. Following preparation, liposomes were loaded with essential oil extracted from *Satureya hortensis* using the thin film hydration technique. Characterization, stability and antimicrobial studies were performed for all liposomes. Results showed P85G (10:1:4) to have the most stable formulation with no change in size distribution and zeta potential following 3 months storage. Moreover, this formulation displayed the most effective antimicrobial agent, the highest inhibition being at a concentration of 28.47 mg/ml. P85G(10:1:4) is a stable and effective vehicle for delivery of *S. hortensis* E.O. against *S. mutans* and has a future potential use as an oral therapeutic agent.

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The research of biofilm in *Candida* species isolated from some clinical samples

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The ability of adherence to surface of biofilm is enabled by microorganisms that live together. Microorganisms creating biofilms are more resistant to environment conditions. Biofilm stick to live mess tissues and dead surfaces, medical equipments and throughout this is transmitted to other organisms. Therefore by isolation of *Candida*