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[Lab. of Microbiology]

Mitotic Specific Phosphorylation of Serin-1212 in Human DNA Topoisomerase II α .

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We have examined the cell cycle behavior of phosphorylated topoisomerase II α (TopoII α) in HeLa cells using antibodies against several phospho-oligopeptide of this enzyme. Serine 1212-phosphorylated TopoII α was located specifically on mitotic chromosomes, but on interphase chromosomes; this result contrasted with overall TopoII α which was observed on chromosomes in both interphase and mitosis. Serine 1212-phosphorylated TopoII α first appeared on chromosome arms in prophase, became concentrated on the centromeres in metaphase, and disappeared in early telophase. The results indicate that Serine 1212 of TopoII α is phosphorylated specifically during mitosis, and suggest that the serine 1212-phosphorylated TopoII α acts on resolving topological constraint progressively from the chromosome arm to the centromere during metaphase chromosome condensation.

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[Lab. of Microbiology]

Relationships between Bath Environment and *Mycobacteria* in the Public-Bath Water.

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Nontuberculous *Mycobacteria* was detected in 30 bathtub waters of the 20 public baths out of 26 ones in Gifu city without correlation to bath environments: *Mycobacteria* were not controlled by high temperature, chlorination, aeration and circulation different from other bacterial ones. 34 *Mycobacterium* isolates recovered from 30 samples of the bathtub waters were identified; *M. avium*, 27; *M. gordonae*, 3; *M. fortuitum*, 2; *M. intermedium*, 1; and *M. phlei*, 1. The detection rate and species distribution showed similar tendency to those of '24h-bath systems'. It may be laid down as a general rule that the detection rate of bacterial species, the bacterial concentration and the level of physicochemical pollution were higher in the waters derived from still bathtubs with a bath water-supplement (Bathclean, Chinese medicine, Chinese herbs, Western herbs, NaHCO₃, etc) at lower temperature than 40°C. This result is warning that prevention of *Mycobacteria* should be urgently treated in public baths as well as in '24h-bath systems'.

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[Lab. of Microbiology]

Experimental prevention of the contamination with nontuberculous *Mycobacteria* in the 24h-bath systems. -Use of autoclaved porous filter balls -

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Nontuberculous *Mycobacteria* was detected in high rate from bathtub waters in '24h-bath systems' even if chlorination was done everyday. Two experimental preventions were set for 5 domestics and 2 institutions (a day-service for the aged and an asylum for children). Firstly, porous filter-balls and all equipments were treated with 0.05% alkyldiaminoethylglycine, and then were washed the disinfectant out with water once a month. *Mycobacteria* were still detected in the filter-ball rinsings and it, in addition, was claimed that bad smell of the disinfectant was remained. Secondly, porous filter-balls were exchanged with autoclaved ones after washing of all equipments and changing water once a month. This method showed to be *Mycobacteria*-negative in both bathtub waters and ball-rinsings until at least 1 week. Accordingly, we recommend the latter treatment at least once a week and, in addition, that hot water higher than 60°C circulates the inside of bath system for more than 1 h a day is effective to kill *Mycobacteria* adhered.

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[Lab. of Herbal Garden]

Shape Variation of "Kudingcha (苦丁茶)" in Chinese Market.

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In order to clarify the shape variation of the Chinese commercial tea "Kudingcha" currently available in the market thirty samples were obtained from 10 provinces and autonomous districts of China. Those commercial samples were classified into eight groups by the shapes of the tea: whole, broken, cut, crumpled, contorted, spiral, ball and tea bag. Some of them were made ball or twist for adding the commercial value.