



## Relation between N-Nitrosos compound and gastric cancer - establishment of a model system and research for human gastric cancer

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### Abstract

**AIM:** To establish a model system for studying gastric carcinogenesis of MNNG, a gastric cancer related carcinogen.

**METHODS:** Cell culture transformation, PCR restriction fragment length polymorphism (PCR-RFLP), DNA blotting and immunochemical techniques and analysis of LDH isozyme and chromosome were performed.

**RESULTS:** GES-1 cells surviving by MNNG treatment were named MC ( $2 \times 10^5$  M for 24 h) and MC B ( $2 \times 10^7$  M for 7 d). The two

cell lines treated by MNNG showed more malignant than maternal cell GES-1 with the evidences of more chromosome aberrations, abnormal morphology and cytoskeleton and also gained the ability of colony formation on soft agar. C-Ha-ras gene point mutation in the 12<sup>th</sup> codon and LDH isoenzyme abnormal express were found in MC-B cells. In addition, C-met gene rearrangement was revealed by Southern blot analysis in MC-B and MC.

**CONCLUSION:** This gastric epithelial cell system is an important model system for further study of stomach cancer, MNNG had a selective effect on the cytoskeleton microfilament in human gastric epithelial cells and intimately associated with the activation of certain oncogenes and some protein.

**Key words:** Stomach neoplasms; Nitroso compounds; Carcinogens; Polymorphism; Polymerase chain reaction; Immunohistochemistry; Incidence

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