

第6回国際先天異常学会連盟(IFTS)学術集会  
第40回日本先天異常学会(JTS)学術集会

抄録集

Teratology 2000



会長：安田峯生(IFTS)、大谷 浩(JTS)

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6TH SCIENTIFIC MEETING OF  
THE INTERNATIONAL FEDERATION OF TERATOLOGY  
SOCIETIES (IFTS)  
&  
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PROGRAM and ABSTRACTS

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連絡先:

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島根医科大学解剖学講座第一  
第40回日本先天異常学会学術集会事務局  
〒693-8501 島根県出雲市塩冶町89-1  
TEL: 0853-20-2102, FAX: 0853-20-2100  
e-mail: anatomy1@shimane-med.ac.jp

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第40回日本先天異常学会学術集会学会本部  
〒690-0826  
島根県松江市学園南1丁目2番1号  
くにびきメッセ TEL: 0852-24-1111

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The Study of the Radiation Protection Effect in  
Enterococcus/Fekaris2001 to Antiradio-teratogenesis in ICR Mice.

○ Yeunhwa GU<sup>1</sup>, Takeo HASEGAWA<sup>1</sup>, Yuichiro YAMAGIWA,  
Youichi YAMAMOTO<sup>1</sup>, Kenichi BAMEN<sup>1</sup> and Iwasa TOSHIHIRO<sup>1</sup>

<sup>1</sup>Department of Radiological Technology,  
Suzuka University of Medical Science,

The effects to this fetus are grasped precisely, and protection criterion and resource are decided from the viewpoint of the protection of radiation as well. If it does so, a child and maturities aren't so difficult as in the protection of radiation and the managerial side. It was examined about control group, Enterococcus/Fekaris2001(EF2001) administration chisels for medical use group, 2Gy independent exposure group and EF2001 plus 2Gy group in this study. It was examined about the radiation protection of EF2001 that to malformation, fetal death arrested development. Preimplantation death didn't recognize statistical significant difference. As for the embryonic death, EF2001 was administered, and obviously embryonic death rate was poorer than the 2Gy independent exposure group, and significant difference was recognized by a 2Gy radiation exposure group ( $p < 0.01$ ). As for the teratogenesis rate, EF2001 was administered, and the teratogenesis rate of the 2Gy-radiation exposure group was lower than the 2Gy-radiation independent exposure group. As for the fetal body weight was recognized, a 2Gy group and EF2001 administered 2Gy radiation exposure group decreased in comparison with the control as for significant difference ( $p < 0.05$ ). Therefore, EF2001 was recognized, and obviously radiation protection effects.

E - 2 0      The effect of oxidative stress on thioredoxin transgenic  
mouse embryos.

○ Mikiko Kobayashi<sup>1</sup>, Hajime Nakamura<sup>2</sup>, Junji Yodoi<sup>2</sup> and  
Kohei Shiota<sup>1</sup>  
<sup>1</sup>Dept Anat Dev Biol, Fac Med, and <sup>2</sup> Dept Biol Response, Inst  
Virus Res, Kyoto Univ, Kyoto

Early rodent embryos are very sensitive to a high oxygen concentration and become less sensitive to oxygen as they grow and become metabolically active. We showed that around E8.5, the redox system develops in mouse embryos and they acquire a capacity of resistance against oxygen stress. We also demonstrated that thioredoxin (TRX) expression was altered in the embryos which developed morphological anomalies by oxidative stress. TRX is a small ubiquitous protein and functions as an anti-oxidative enzyme which catalyzes thiol-disulfide oxydoreductions. To elucidate the relationship between sequential changes of the TRX expression and embryonic development, we investigated the expression of redox regulating enzymes in TRX transgenic mouse embryos. We also examined the effects of oxidative stress in vitro on explanted TRX transgenic mouse embryos using whole embryo culture and compared with the effects on wild type embryos.