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**Metallothionein mRNA expression in cadmium treated Leydig cells**

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Although the biological functions of metallothioneins(MTs) are still being investigated, they have been suggested to be involved in detoxification of heavy metals, scavenging of free radicals, and protection against alkylating agents. MTs have been reported to be induced in most of animal tissues by heavy metals such as zinc, copper, mercury and cadmium, and the proteins have binding affinities to the metals. However, The presence or induction of MTs was reported not to be clear in leydig cells, which produce testosterone for the maturation of spermatozoa in male testes. In this study, we investigated the inducibility of metallothionein isomers in cultured mouse leydig cells and compared that of human epithelia lung cells. Total RNA was extracted from the near confluent grown leydig cells and RT-PCR/PCR was performed using the primers which were synthesized on the basis of of MT I, II, III and IV cDNA from GenBank database. As results, MT-1 and MT-2 mRNA were found to be expressed in cadmium non-treated control cells as well as cadmium treated cells. MT-1 mRNA expression was dose-dependent. But MT-3, which is known to be brain specific and MT-4, which is another isoform of metallothionein, were not expressed.

**Keyword** : Metallothionein, Leydig cell, Cadmium