# Paper Titles

## Mechanism of Cancer Cell Death Induced by Hydrogen Discharged from Palladium Base Hydrogen Storage Alloy

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### Abstract:

The mechanism of cancer cell death induced by hydrogen discharged from Pd-5at.% Ni hydrogen storage alloy has been investigated. Cancer cell (HeLa : cervical cancer cell) death was observed in the limited region within ~ 3 mm from the sample. The measurement of surviving fraction of cells revealed that almost all the cancer cells in the well of 96-well multi plate, 6.2 mm in diameter were extinct ($p < 0.01$), while no detectable influence was observed in the normal cells. From the fluorescent imaging experiment, it was indicated that the cell death induced by discharged hydrogen was due to the “Apoptosis” and hydrogen peroxide was detected in both intracellular and extracellular regions. Furthermore, the generation of hydrogen radical and hydroxyl radical was observed in the ESR measurement. From the results obtained, the mechanism of cancer cell death is proposed.




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