Paper Titles

Influence of Hydrogen Discharged from Palladium Base Hydrogen Storage Alloys on Cancer Cells

1559

Abstract:

The influence of discharged hydrogen from Pd-Ni based hydrogen storage alloys (HSAs) on cultured cells has been investigated. The susceptibility of cells to discharged hydrogen varied with the kind of cells. No influence was seen in the normal cells, while an effect of killing cancer cells was observed near the HAS and the region where the cell death was observed was limited to an extent of a few mm from the alloy surface. In order to examine the cause of the effects, the amount of gaseous hydrogen and hydrogen radicals released from the alloy surface and pH change of physiological saline aq. solution were measured. The amount of gaseous hydrogen and hydrogen radicals increased with time. The pH of physiological saline aq. solution decreased first and then recovered to the starting value after about 50h. The pH change behavior varied with alloy composition. It is inferred that the hydrogen radicals formed on alloy surface may bring a characteristic change in the cancer cells, leading to the effect of discharged hydrogen on cancer cell death.

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