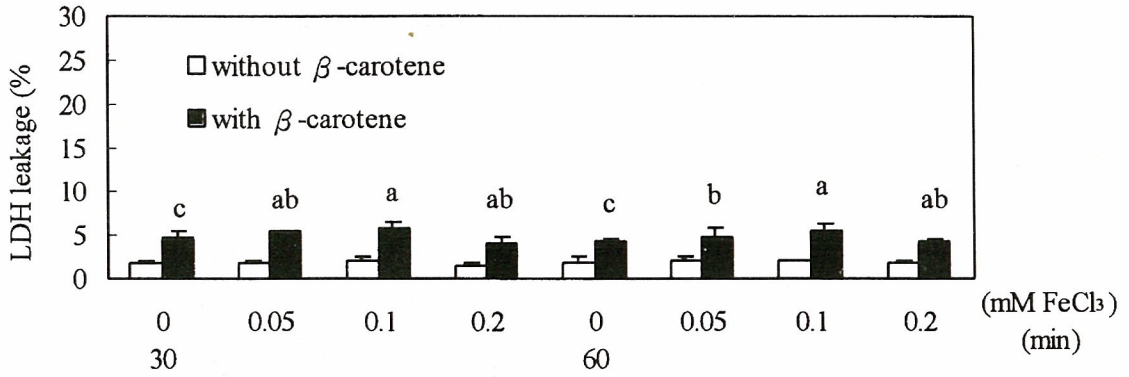

Fig.1. Effect of $FeCl_3$ on cell integrity in rat primary hepatocytes from rats fed an AIN-76 diet with or without 0.01% β-carotene by measuring lactate dehydrogenase (LDH) leakage.

*Values with different superscripts in the same color bar are significantly different from one another at $p < 0.05$ as determined by ANOVA and Duncan`s multiple range test.

** The percentages of LDH leakage significantly differ ($p = 0.0001$) between feeding the β-carotene and β-carotene-free diets.

of cells from rats fed the β-carotene diet was significantly greater than that in rats fed the β-carotene-free diet ($p < 0.05$) when primary rat hepatocytes were incubated without $FeCl_3$.

The SOD activity of cells from rats fed the β-carotene diet was significantly less than that of rats fed the β-carotene-free diet ($p = 0.0023$) when primary rat hepatocytes were incubated with 0 mM $FeCl_3$ for 30 and 60 min (Fig. 2). The SOD activity of cells from rats fed the β-carotene diet was also significantly less than that of rats fed the β-carotene-free diet when primary rat hepatocytes were incubated without $FeCl_3$.

The CAT activity of cells from rats fed the β-carotene diet was significantly greater than that of the cells from rats fed the β-carotene-free diet when the primary rat hepatocytes were incubated with 0.05~0.2 mM $FeCl_3$ ($p = 0.0001$) (Fig. 3). The CAT activity of cells from rats fed the β-carotene diet was also significantly

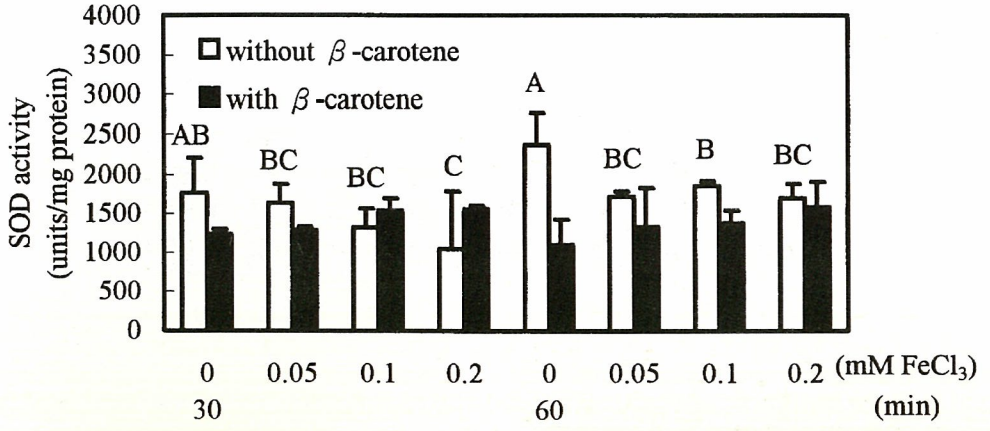

Fig. 2. Effect of $FeCl_3$ on superoxide dismutase (SOD) activity in primary rat hepatocytes from rats fed an AIN-76 diet with or without 0.01% β-carotene.

* Values with different superscripts in the same color bar are significantly different from one another at $p<0.05$ as determined by ANOVA and Duncan`s multiple range test.