

The analysis of signal secretion on bystander effect induced by X ray irradiation

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Abstract

Recently, bystander effect was focused on the radiation effects. Irradiated cells secreted something liquid factor that induced lethal effect by signal transduction. So far, we suggested that radiation induced bystander effect is closely relative to sphingomyelinase. Still more signal transduction of sphingomyelinase is related to microvesicles. Because many divalent metals bind sphingomyelinase in microvesicles, in this study we investigated divalent metal in refined sphingomyelinase using PIXE analysis. The concentration of zinc and copper element form refined sphingomyelinase increased after irradiation. These results indicate zinc- and copper-binding sphingomyelinase is related to signal transduction on bystander effect.