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ONLINE ISSN : 1880-313X

PRINT ISSN : 0388-6107

**Biomedical Research**

Vol. 29 (2008) , No. 1 February pp.47-52

[\[PDF \(1708K\)\]](#) [\[References\]](#)**Induction of apoptosis by anti-CD44 antibody in human chondrosarcoma cell line SW1353**Makoto YOSHIDA<sup>1)</sup>, Tadashi YASUDA<sup>2)</sup>, Teruko HIRAMITSU<sup>1)</sup>, Hiromu ITO<sup>1)</sup> and Takashi NAKAMURA<sup>1)</sup>

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(Received October 15, 2007)

(Accepted November 27, 2007)

**ABSTRACT**

Because chondrosarcoma is resistant to chemotherapy and ionizing radiation, the primary treatment of chondrosarcoma is surgical resection. Effective chemotherapeutic agents for chondrosarcoma are necessary. Although there is evidence that CD44 is involved in apoptosis susceptibility in several cell types, the effectiveness of anti-CD44 treatment on chondrosarcoma has never been studied. This study was aimed to clarify whether anti-CD44 monoclonal antibody induces apoptosis in human chondrosarcoma cell line SW1353. Confocal microscopy revealed that the SW1353 cells expressed CD44 that bound the anti-CD44 antibody IM7. Treatment of the cells with IM7 resulted in a significant decrease in cell viability, compared with that with control IgG. In contrast, IM7 failed to reduce cell viability in human chondrocytes. In SW1353 cells, IM7 induced chromatin condensation, nuclear fragmentation, and apoptotic body formation while control IgG had marginal effect. These data indicate that anti-CD44 treatment could induce apoptosis in chondrosarcoma cells.

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To cite this article:

Makoto YOSHIDA, Tadashi YASUDA, Teruko HIRAMITSU, Hiromu ITO and Takashi NAKAMURA; "Induction of apoptosis by anti-CD44 antibody in human chondrosarcoma cell line SW1353", *Biomedical Research*, Vol. **29**, pp.47-52 (2008) .

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doi:10.2220/biomedres.29.47

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