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재조합 대장암 항원 단백질 GA733-2의 발현과 쥐에서의 면역반응 효과

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Expression of Recombinant Colorectal Cancer Antigens GA733-2 and Its Effect on Immune Responses in Mice

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Objectives

The GA733-2 antigen is a 40 kDa human cell surface glycoprotein defined by the murine mAb3 GA733. This antigen has been found to be associated with a variety of human carcinoma such as colorectal, pancreatic, and breast carcinoma GA733-2 can be an immuno therapeutic target of the most frequent human cancer.

Materials and Methods

○ Materials - pGEM-T vector, Drosophila melanogaster Schneider (S2) cell, Ni-NTA resin

○ Methods - Cell culture, transfection, western blot analysis, ELISA

Results

In this study, we examined the expression of recombinant GA733-2 using DES insect cell and plant systems. The gene insertion was confirmed in stably tranfected insect cells and plants by Southern hybridization analysis. Recombinant GA733-2 was expressed with a molecular size of approximately 35~37 kDa and 40 kDa insect cells and plants, respectively. We are currently investigating immunization of recombinant GA733-2 from insect cells and plants in mice. Our presentation will also include the potential merits of both systems expressing recombinant cancer antigens necessary for the research of future vaccine development.

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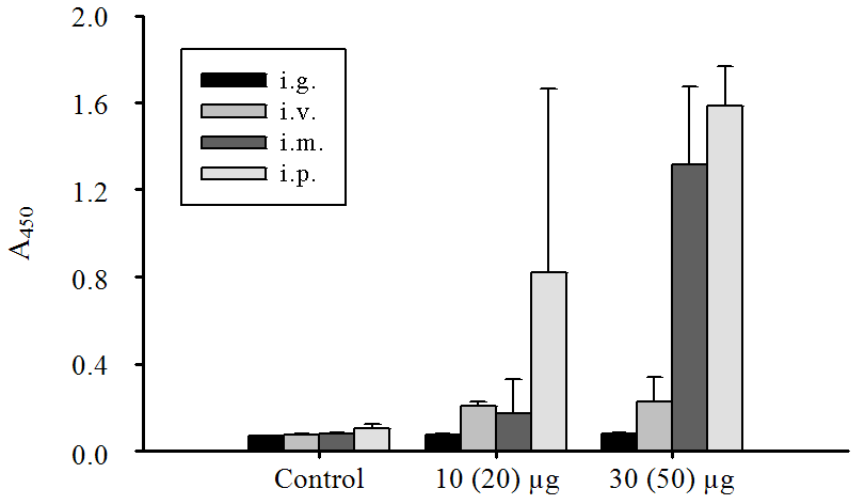

Figure 1. Production of anti-GA733-2 IgG antibodies in serum induced by immunization of GA733-2. BALB/c mice were immunized by intragastic (i.g.), intravenous (i.v.), intramuscular (i.m.) and intraperitoneal (i.p.) delivery on days 0, 7 and 21 with GA733-2. Serum samples were collected at day 28 and diluted 1:1000. ELISA showed serum IgG levels against GA733-2. The samples were tested in triplicate runs. The bars represent the means of OD_{450} plus standard deviations.

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