Combined effect of anti-PD-L1 antibody with low molecular weight compound in the tumor-bearing mouse model

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Immune checkpoint inhibitors such as anti-PD-1 antibody and anti-PD-L1 antibody have recently been approved for the treatment of melanoma or non-small cell lung cancer. In this study, we examined the anti-tumor effect of anti-PD-L1 antibody with low molecular weight compound.

Mice were subcutaneously inoculated with a mouse cancer cell line. They were allocated into the control, anti-PD-L1 antibody, low molecular weight compound and their combination treatment groups. Anti-PD-L1 antibody was administered intraperitoneally twice a week for two weeks. The low molecular weight compound was administered orally once a day for 14 days. The tumor diameters were measured to calculate the tumor volumes. Observation and measurement were performed for 14 days after the initiation of administration. The tumor was excised and dispersed to analyze tumor-infiltrating lymphocytes (TILs) . The dispersed cells were stained with fluorescent-labeled antibodies and analyzed using the flow cytometer.

As a result, a proportion of TILs subsets including regulatory T cells (Treg), $CD8^+$ T cells, tumor-associated macrophages (TAM) and myeloid-derived suppressor cells (MDSC) were altered by administration of drugs. It suggested that the evaluation system described above is useful for combined efficacy study of anti-PD-L1 antibody with low molecular weight compound in the tumor-bearing mouse model.