**Supplementary Figure S1. Study profile.**

Two patients with pancreatic ductal adenocarcinoma (PDA) and 1 patient with intrahepatic cholangiocarcinoma (ICC) who were positive for HLA-A\*02:01, A\*02:06, or A\*24:02 received the DC/WT1-I vaccination. One PDA patient who was positive for HLA-DRB1\*08:03 and DPB1\*05:01 received the DC/WT1-II vaccination. Then, 7 PDA patients who were positive for HLA-A\*02:01, A\*02:06, A\*24:02, DRB1\*04:05, DRB1\*08:03, DRB1\*15:01, DRB1\*15:02, DPB1\*05:01, or DPB1\*09:01 received the DC/WT1-I/II vaccination. The 7 PDA patients who received the DC/WT1-I/II vaccination and the 3 PDA patients who received the DC/WT1-I or -II vaccination were analyzed for toxicities, their clinical responses, and their WT1-specific immunological responses. One ICC patient who received the DC/WT1-I vaccination was analyzed for toxicities and WT1-specific immunological responses.

**Supplementary Figure S2. Treatment schedule.**

In the first course, gemcitabine was administered alone at a dose of 1,000 mg/m2 on days 1, 8, and 15 in a 28-day cycle. For the second course, patients received gemcitabine on days 1, 8, and 15 in a 28-day cycle and DC/WT1 vaccines intradermally biweekly, regardless of the regimen of chemotherapy. However, nearly all vaccines overlapped with standard chemotherapy. The patients received treatment until the occurrence of disease progression, unacceptable adverse events, or withdrawal of consent.

**Supplementary Figure S3. Frequency of regulatory T cells or myeloid-derived suppressor cells in patients before and after therapy.**

A, Dot plots of CD25+Foxp3+ cells in the CD4+ T cell populations from PDA-04 after 11 vaccinations with DC/WT1-I/II are shown. B, The percentages of CD25+Foxp3+ cells in the CD4+ T cell population in patients who received DC/WT1-I or -II (left panel) or DCWT1-I/II (the delayed type hypersensitivity (DTH)-positive patients, middle panel; and DTH-negative, right panel) during the vaccination period were assessed. C, Dot plots of CD14-CD11b+CD33+ cells in live PBMCs from PDA-04 after 11 vaccinations with DC/WT1-I/II are shown. D, The percentage of CD14-CD11b+CD33+ cells in live PBMCs was assessed in patients who received DC/WT1-I, -II (left panel) or DCWT1-I/II (DTH-positive patients, middle panel; and DTH negative, right panel) during the vaccination period.