CBT-502 (TQB2450), a novel anti-PD-L1 antibody, demonstrates favorable activity in MC-38/H-11 murine colon and A375 human melanoma animal models

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CBT-502 (TQB2450) is a novel humanized IgG1 antibody against programmed cell death-ligand 1 (PD-L1) developed by CBT Pharmaceuticals, Inc. and CTTQ. CBT-502 shows significant sequence divergence in CDRs from other anti-PD-L1 antibodies, and is active in murine models expressing high levels of PD-L1. PD-L1 binds to its receptor, PD-1 on activated T cells, CD80 on dendritic cells and CD86 on B cells. Preclinical data of CBT-502 shows the growth of tumors in the presence of CBT-502 was inhibited in vivo and in vitro.

CBT-502 and atezolizumab rescue Treg induced inhibition in in-vitro MLR assay.

In-Vivo Efficacy Studies

- Efficacy of CBT-502 in Mouse Subcutaneously Transplanted with MC-38/H-11 Cells
  - Method: MC-38/H-11 cells were subcutaneously implanted into the flank region of highly immunocompetent female BALB/c nude mice. After tumor size reached about 100 mm³, treatment was initiated with either CBT-502 or atezolizumab. CBT-502 demonstrated significant TGI in the MC-38 model, confirming activity of CBT-502. Tumor growth inhibition (TGI) % at 10 mg/kg tiw was 53.5% and 59.4% for CBT-502 and atezolizumab, respectively. There was no obvious loss of body weight (BW) with administration, although a slight reduction in body weight was observed with atezolizumab administration in the MC-38 model. Similar results were observed in the A375 model.

- Pharmacokinetics
  - The pharmacokinetics of CBT-502 were determined in mice and humans. In mice, CBT-502 demonstrated binding affinity to PD-L1 by SPR of 739 pM; and blocked binding of PD-L1 with CD80 (IC50 = 7.3 pM). Preclinical pharmacodynamics and toxicology (data not shown) studies of CBT-502 were performed.

- References