Summary sheet for exploratory endpoints results for clinical study C17-315-04

EXPLORATORY EFFICACY ENDPOINTS

- Identification of tumour-antigen specific T-cells in tumour tissue and peripheral blood mononuclear cells (PBMCs) by major histocompatibility complex (MHC) multimer–based screens, enzyme-linked immuno-spot assay (ELISPOT) and flowcytometry analysis of cytokines including interferon gamma (IFNγ) and tumour necrosis factor alpha (TNFα)
- Changes in immunological parameters from Baseline (Step 1, Week 1, Day 1) to 15 months after EoT

CONCLUSION FROM CLINICAL STUDY REPORT

Immune responses

Systemic immune effects of LTX-315 alone or in combination with adoptive T-cell therapy (ACT) was evaluated by assessment of the TIL product and PBMCs collected at different time points before and after treatment. Assessment included evaluation the T cells' ability to recognize tumour in each subject. T-cell response was evaluated against predicted neo-peptides, cancer testis antigens and autologous tumour cell lines. Three out of 4 evaluable subjects showed some level of induced T-cell response against cancer testis antigens in the TIL product and at variable degree after treatment. One subject showed induced T-cell response against predicted neo-peptides after LTX-315 treatment and the level of T-cell response was further increased after ACT. All 3 subjects showed T-cell response against autologous tumour cell line, and in 2 subjects the T-cell response was induced by the combined treatment of LTX-315 and ACT, or LTX-315 alone respectively.
Systemic immune effect of the treatment was also assessed by sequencing the TCR repertoire in the PBMCs, the TIL product and the biopsies. Two subjects were evaluated and LTX-315 induced expansion of a significant number of T-cell clones in the blood in both subjects. New T-cell clones were detected after LTX-315 treatment, they expanded significantly in the periphery, and were present in tumour tissue after treatment.
Taken together, the exploratory analysis showed that LTX-315 modified the systemic immune response by reprogramming the TCR repertoire and induced tumour specific T cells.