First-in-Human Anti-ALPP CAR-T Cell Immunotherapy for Ovarian and Endometrial Cancer

Bo Zhu, Qinghua Lin, Rui Chen, Gang Chen, Xiaojiao Zhao, Nicole Palmer, Debing Xiang, Fanglin Chen, Yuzhong Duan, Huaiyin Wang, Jinli Shan, Lin Xiong, Rongkai Xie, Guanghu Li, Liyan Yan, Rong Li, Lei Xiao, Peter Alexander, Zhenguo Su, Li Li

Background

- Ovarian and endometrial cancers are commonly occurring cancers (>75%) in women with very limited treatment options for relapse and metastasis.
- The incidence of ovarian and endometrial cancers worldwide is >600,000 patients/year.
- Over 70% of patients are diagnosed with advanced-stage disease with a 5-year survival rate of <30%.
- While immune checkpoint inhibitors have demonstrated unprecedented responses against certain cancer types, results from early attempts to treat ovarian and endometrial cancers have been suboptimal.

Methods

- **Clinical Indications**: Ovarian and endometrial cancers are commonly occurring cancers (>75%) in women with very limited treatment options for relapse and metastasis.
- **Study Design**: Clinical trials evaluating the activity and tolerability of TC-101 in ovarian and endometrial cancers.
- **Patients**: Inclusion criteria included: age ≥ 18 years, histologically confirmed ovarian or endometrial cancer, tumors ≥ 1.5 cm, and Eastern Cooperative Oncology Group (ECOG) performance status of 0-1.

Results

- **TC-101** significantly reduces tumor burden and extends mouse survival.
- **Low doses of TC-101 did not induce CRS or other CAR-T related AEs in any of the three patients with ovarian carcinoma**.
- **Objective tumor regression was observed in two of three patients treated with TC-A101**.

Conclusions

- **TC-101 significantly reduces tumor burden and extends mouse survival**.
- **Low doses of TC-101 did not induce CRS or other CAR-T related AEs in any of the three patients with ovarian carcinoma**.
- **Objective tumor regression was observed in two of three patients treated with TC-A101**.
- **More patients are being enrolled in this study**.

Contact

Bo Zhu: Email: zhubo20317@163.com Phone: +86-13594611534
Si Li: Email: si.li@tcrcure.com Phone: +1-323-352-8868

Abbreviations

- UT, untransduced; CA, carcinoma; S, surgery; C, chemotherapy; R, radiotherapy; CRS, cytokine release syndrome; PR, partial response; SD, stable disease; PD, progressive disease; IL-6, interleukin-6; CRP, C-Reactive Protein; TNFα, Tumor Necrosis Factor alpha; IL-8, interleukin-8.

References

1. World Cancer Research Fund

Disclosures

- ZS is a member of the board of Directors at Guangdong TCRCure Biopharma Technology Co., Ltd.
- The authors declare no conflicts of interest.

Acknowledgement

- We are grateful to members of Guangdong TCRCure Biopharma Technology Co., Ltd. for the preparation of CAR-T cells and patient sample analysis and processing.