A Phase I/IIa, Open-label, Dose-Escalation and Dose-Expansion Study to Investigate the Safety, Tolerability, Pharmacokinetics and Pharmacodynamics of TJ107, a Long-acting IL-7, in Chinese Patients with Advanced Solid Tumors

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INTRODUCTION

TJ107, an immuno-oncology agent also known as Hyleukin, is a T cell amplifier comprising a homodimer of engineered human interleukin-7 (IL-7) fused with Genexine’s proprietary long-acting platform hybrid Fc. IL-7 is a critical homeostatic factor for T cells, acting on T cells to increase their number, diversity and functionality. TJ107 could play a pivotal role in reconstitution and reinvigoration of T cell immunity in cancer patients, providing unique opportunities for immuno-oncology combination strategies.

The aim of this study (NCT04001075) is to determine the safety, tolerability and PK/PD profile of TJ107 in Chinese cancer patients.

METHODS

RESULTS

Patient Baseline Characteristics

- Three patients with colorectal cancer were enrolled in the first cohort (240 μg/kg) (Table 1).

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Subject ID</th>
<th>Primary Disease</th>
<th>M/F</th>
<th>Age</th>
<th>ECOG PS</th>
<th>Metastatic lesion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort 1 n=10-12</td>
<td>Colorectal M</td>
<td>42</td>
<td>1</td>
<td>Liver, pelvis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohort 2 n=10-12</td>
<td>Colorectal M</td>
<td>50</td>
<td>1</td>
<td>Liver, lymph node, lung, gastrointestinal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SAFETY

- TJ107 was well tolerated and no DLTs were reported during the first cycle at this dose level.
- The most common TEAs was transient lymphocyte count decrease which is due to the TJ107 induced lymphocyte homing (Table 2).
- All 3 subjects had grade 1 injection site reactions which recovered spontaneously or after local treatment without steroid (Table 3).
- The only SAE was an event of hospitalization due to melaena on a patient with colorectal cancer. The event was considered unlikely related to TJ107 by the investigator (Table 4).

<table>
<thead>
<tr>
<th>PT term</th>
<th>Total n (%)</th>
<th>G3/G4 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injection site reaction (n=21)</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Injection site pain (n=21)</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Injection site redness (n=21)</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Injection site soreness (n=21)</td>
<td>21 (100%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

Pharmacokinetic profile following dose

- The preliminary PK results shows that TJ107 was rapidly absorbed and reached serum peak concentration around 24 hours post-dose.
- TJ107 was slowly cleared from the body and remained detectable in serum until Day 14 post-dose.

CONCLUSIONS

- Preliminary results from the ongoing trial show that TJ107:
  - Exhibited a safety profile in cancer patients at the dose of 240 μg/kg with the characteristics of rapid absorption and slow clearance.
  - Activated IL-7 pathway and expanded T cells in cancer patients in a similar way to data previously reported in healthy subjects.
  - Increased the diversity of TCR repertoire.

As a potent and selective T cell amplifier, the potential of TJ107 as a novel I/O therapy agent warrants further clinical investigation.