FGFR2b Represents a Novel Target for Treatment of Urothelial Cancer
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Complete Response in a Patient With Metastatic Urothelial Cancer Treated with FPA144 During Dose Escalation

- FPA144 is a monoclonal antibody against the fibroblast growth factor receptor 2b (FGFR2b) isoform. FGFR2b is a receptor tyrosine kinase that is a driver in a subset of cancer patients.

- The patient experienced a confirmed CR by RECIST 1.1 criteria.

- PET (performed on Day 213) showed no appreciable lymphadenopathy (confirmed on subsequent scans).

- The patient remains on treatment for 3 years (August 2014 - August 2017).

- FPA144 is being developed for FGFR2b overexpressing gastric cancer. Currently exploring additional indications.

Multiple Links Exist Between FGFR Biology and Urothelial Cancer

- FGFRs are a family of receptor tyrosine kinases (RTKs) that play important roles in many biological processes, including cell proliferation, differentiation, and survival. FGFRs are overexpressed in a subset of cancer patients, particularly in urothelial cancer.

- FGFR overexpression may also be important in primary and metastatic UC and the utility of combining FPA144 with PD-L1 blockade in the 4T1 syngeneic tumor model in mice.

Results - continued

Expression intensity and share for positive Urothelial Cancer samples

Materials & Methods

- Immunohistochemical stains were performed on formalin-fixed, paraffin-embedded tissue sections of the primary tumor, selected matched metastatic tissue, and 5 UC biopsy samples. The primary tumor and one matched metastasis were stained in 4 + 3 steps.

- Results are expressed as percentage of cells staining positively using the following score system:
  - 0% of tumor staining at 1+ intensity
  - 15% of tumor staining at 2+ intensity
  - 30% of tumor staining at 3+ intensity

- Acknowledgement: Prime Therapeutics Inc.

References

Full research references are available in the manuscript. For more information, please contact Prime Therapeutics Inc.

Figure 1. FPA144 Has Multiple Mechanisms of Action

Figure 2. FGF ligand and receptor family. FPA144 blocks only FGFRb2 receptor

Table: Immunohistochemical Staining Scores

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>1+</th>
<th>2+</th>
<th>3+</th>
<th>Positive Share %</th>
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<tr>
<td>Primary</td>
<td>32%</td>
<td>15%</td>
<td>10%</td>
<td>57.0%</td>
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<tr>
<td>Normal</td>
<td>12%</td>
<td>18%</td>
<td>25%</td>
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Conclusions

- FGFR2b is a promising target for treatment of advanced urothelial cancer.

- FPA144, a monoclonal antibody against the FGFR2b isoform, has shown promise in treating advanced urothelial cancer.

- Additional studies are needed to further evaluate the efficacy and safety of FPA144 in this patient population.

- Future studies aiming to identify additional UC patient subgroups that may benefit from FGFR2b inhibition are warranted.

- Additional work is needed to understand the mechanisms of FPA144-mediated cytotoxicity and stimulate sensitivity in bladder cancer.