Clinical Activity and Safety of SYNC-T Therapy SV-102 in Patients with Metastatic Prostate Cancer

Charles J. Link, MD[1,2], Eamonn Hobbs[2], Stephen Kee, MD[2], George C Prendergast, PhD[1], Lucinda Gamble, MS[2], Renata Barco, MD[3], Mario Mautino, PhD[2], Gabriela R Rossi, PhD[2], Daniel K. Recinella, MBA[2], David J Vaughan, MD[2], Richard G Harris, MD[2,4], Eduardo Cortes[5], Ricky Tong, MD[6], Joseph Maroon, MD[7], Jason R. Williams, MD[5] and Carlos A Vargas, MD[3]

Affiliations: (1) Lankenau Institute for Medical Research, Wynnewood, PA, (2) Syncromune, Inc., Fort Lauderdale, FL, (3) DioMed Hospital, Mexico City, Mexico, (4) UroPartners, Westchester, IL, (5) Williams Cancer Institute, Beverly Hills, CA, (6) Main Line Health, Wynnewood, PA, (7) University of Pittsburgh, Pittsburgh, PA.

Background: Conventional forms of immunotherapy for metastatic prostate cancer have limited efficacy and significant rates of severe immune-related adverse events. SYNC-T is a novel *in situ* therapy that synchronizes the presence of tumor antigens, the SV-102 immune therapy drug, and immune cells in the tumor and locoregional lymph nodes. SYNC-T Therapy starts with a partial cryolysis of a targeted tumor to release personalized antigens, followed immediately by intratumoral infusion of SV-102, leading to T-cell activation and an effective systemic immune response. SV-102 is comprised of 4 active immunotherapies: a PD-1 inhibitor (abazistobart), CTLA-4 inhibitor (futermestotug), CD40 agonist (ciltistotug), and TLR9 agonist (sitmutolimod). Herein we report on the first 15 subjects treated with SYNC-T Therapy SV-102.

Methods: 15 patients with metastatic prostate cancer (10 had failed hormone therapy and 5 had refused hormone therapy) were recruited into a single-arm Phase 1 study (NCT05544227). All were treated and evaluable and received the same dose of SV-102 q4 weeks for up to 12 cycles (median = 6). For each cycle a single tumor site was treated, and the primary prostate tumor was targeted in all men.

Results: Median age was 61 (48-74). For the entire cohort, there were 8 CRs (53%) and 5 PRs (33%) for an ORR of 87%. Median time to response was 2.9 months; median duration of response was 12.1 months (range 1.1-24.1). Median rPFS was 14.2 months (range 4.8-24.1). Median OS has not been reached (range 6.1 to 24.6 months). 3 men died during follow-up, resulting in 80% survival at 17.2 months median follow-up. At baseline, 13/15 patients (87%) had skeletal metastases (range 1-54); 5/13 (38%) had >20 bone metastases. After therapy, all bone metastases resolved in 7/13 (54%) patients when visualized by bone scan and/or PSMA PET scan. An independent radiological review was conducted and confirmed the ORR of 87%, but with 6 CRs (40%) and 7 PRs (47%).

SYNC-T Therapy was well-tolerated with 41 treatment emergent adverse events (TEAEs) in 13 subjects. The majority (95%) of TEAEs were Grade 1 or 2, most commonly fever and hematuria. There were 2 Grade 2 immune-related AEs (hypothyroidism and hepatitis) and 2 Grade 3 TEAEs including a cord compression from an existing spinal metastasis (treated with local XRT) and voiding problem (resolved after placing bladder catheter for one day).

Conclusions: These data demonstrate an initial proof of concept that SV-102 can be safely administered and the metastatic prostate cancer including bone metastases can be effectively treated by partial cryolysis of the primary tumor and intratumoral infusion of immunotherapeutic SV-102. SYNC-T Therapy SV-102 has an acceptable safety profile. LEGION-100, a multi-center Phase 2 trial is currently enrolling in the US (NCT06533644).

Funding Acknowledgements: Syncromune, Inc. provided research funding for the conduct of this trial.

Conflicts of Interest Disclosure Statement: CL, EH, SK, LG, MM, GR, and DR are Syncromune employees and shareholders. GP, RB, DV, RH, JM, JW, and CV are shareholders of Syncromune. All other co-authors have no relevant conflicts to disclose.