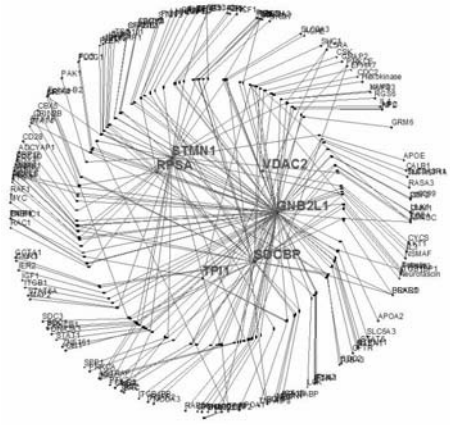
analysis. Results of target prioritization are complete in patient 1 (melanoma) who demonstrated 45 up-regulated proteins (≥2 fold) in malignant compared to non-malignant tissue. Six key signature proteins were chosen based on (1) analysis of functions and processes associated with cancer growth and robustness as defined by Hanahan and Weinberg, H&W (self sufficiency, immortality, immune escape, apoptosis, replication, angiogenesis, and invasion), (2) conservation of coupled DNA in eukaryotic completed genomes, (3) coupled upregulation of mRNA and protein, and (4) transcriptional regulator activity. Western blot analysis with known protein antibodies was used to confirm MS results and identify similar levels of protein expression in selected NCI 60 cell lines.

Using our systems biology construct, these 6 proteins underwent gene expression analysis and pathway modeling to determine inter- and intra-pathway connectivity to proteins involved with functions identified by H&W. A total of 1159 literature citations were identified involving the 6 key proteins. First order protein-protein interaction connectivity is shown below.

GNB2L1, STMN1, and SDCBP are highly connected and are proposed as high priority targets of patient 1 (melanoma) for therapeutic modification testing. SiRNA and shRNA knockdown to validate phenotype and genotype effect *in vitro* and *in vivo* is under way. Vehicles to be tested for clinical delivery have completed toxicology. Compassionate treatment of all 10 patients, once individual priority targets are identified, using delivery-vectored single- and multiplexed-shRNA[s] will provide 'proof of principle' in establishing the clinical feasibility of personalized therapeutics using genomic/proteomic profiling.



52. A Phase 1 Dose-Escalation Trial of Intravesical CG0070 for Superficial Transitional Cell Carcinoma (TCC) of the Bladder after Bacillus Calmette-Guerin (BCG) Failure

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Introduction and Objective: CG0070 is a replication competent adenovirus (AD) modified to express the cytokine granulocyte macrophage colony stimlatory factor (GM-CSF) and replicate preferentially in Retinoblastoma (RB) pathway defective cancers via replacement of the key wild-type AD promoter E1a with the human E2F-1 promoter. Preclinical studies show CG0070 to be a selective cytotoxic and immunostimulant. BCG, which acts by generating an anti-tumor immune response, is the standard of care for patients with Superficial TCC. Given the limited treatment options following BCG therapy and the relevance of immunological therapy for TCC, this Phase 1 study was initiated. Methods: The primary goals for this study of intravesical (IVE) CG0070 in patients with existing TCC after BCG failure is the evaluation of safety and the identification of a maximum tolerated dose. Assessment of response rate and progression free survival is also planned. T1, Ta, or CIS patients with normal coagulation; and adequate kidney, liver, and bone marrow function are eligible. 3 patients at single IVE doses of 10^{12}, $3x10^{12}$, 10^{13}, $3x10^{13}$, and 10^{14}viral particles (vp) will be evaluated . All patients receive dodecyl-maltoside, a mild detergent, prior to CG0070 to enhance penetration of the mucosal layer. Patients are assessed for adverse events (AE) and laboratory measures of toxicity. Results: 6 total patients have been treated to date at 10^{12} and $3x10^{12}$vp. Treatment was tolerable with mild-moderate AE reported including dysuria, urgency, and malaise. No grade 3/4 AE or significant lab toxicity was reported. Cystoscopic examination of 3 patients day 8 after treatment with 10^{12}vp revealed inflammation and tumor regression. A complete response (CR) at week 12+ after treatment was reported in a patient with Ta TCC treated with 10^{12}vp. For all other patients efficacy assessment will be presented. Conclusions: Preliminary results of IVE CG0070 in patients with superficial TCC who have failed BCG suggest a good safety profile with limited local toxicity. Notably, initial evidence of anti-tumor activity is suggested by CR in 1 of 3 pts treated at the initial dose of only 10^{12}vp. Conclusions regarding safety and efficacy will be updated at presentation.

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53. Preliminary Results of a Pilot Phase I Clinical Trial of Adoptive Immunotherapy for B Cell Lymphoma Using CD8+ T Cells Genetically Modified To Express a Chimeric T Cell Receptor Recognizing CD20

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Follicular Lymphoma (FL) is the second most common type of Non-Hodgkin's Lymphoma (NHL) in the United States, with over 120,000 Americans living with the disease. FL is considered incurable with conventional therapies and innovative new approaches are needed. We have initiated a pilot Phase I clinical trial to test the feasibility, safety, toxicity, and efficacy of treating patients with relapsed indolent B cell lymphomas with autologous CD8+ cytotoxic T lymphocytes (CTL) that have been genetically modified to express a chimeric T cell receptor (cTCR) recognizing the CD20 antigen present on B cell lymphomas. Five patients have been registered to the protocol to date. Peripheral blood mononuclear cells were obtained from patients by apheresis, activated with anti-CD3 monoclonal antibody and interleukin 2 and transfected by electroporation with a plasmid encoding a CD20-specific scFvFc:zeta