

### Nobex Makes Strides toward a CHF Therapeutic

Nobex Corporation was awarded a Phase I SBIR grant for \$100,000 from the NIH in July for their proposal entitled "Oral Peptide Conjugate to Treat Congestive Heart Failure." The proposal describes the covalent attachment of amphiphilic oligomers to human B-type natriuretic peptide (hBNP) to improve the pharmacokinetic and pharmacodynamic profile of the peptide and to enable oral delivery. In vivo studies are being conducted through a collaboration with the Mayo Clinic. According to Christopher Price, CEO of Nobex, "The Phase I SBIR award provided timely funding to advance oral hBNP from a conceptual stage into early chemistry and preclinical study. Completion of that research has enabled us to file for SBIR Phase II funding, which, if awarded, will allow us to take oral hBNP to the IND stage."

***"...Nobex received helpful consultation from John Ujvari and Ervin Allen of the SBTDC while preparing the Phase II proposal."***

This SBIR award is the third Phase I grant that Nobex has received. Both Dr. Ekwuribe and Dr. James have participated in multiple conferences and workshops organized by John Ujvari and the SBTDC. In fall 2003, Nobex received helpful consultation from John Ujvari and Ervin Allen of the SBTDC while preparing the Phase II proposal for the BNP project. Nobex anticipates submitting a Phase II proposal on an anti-obesity therapeutic peptide in 2004.

"An oral hBNP product offers significant advantages over the therapeutic options that are currently available to treat CHF," said Kenneth James, PhD, project leader and principle investigator for the Phase I SBIR grant and the Phase II proposal. The oral therapeutics that are currently used typically address only one pathway toward alleviating decompensation, so combination therapies of two to four drugs are commonly required. Each of these drugs can be accompanied by adverse side effects. In contrast, hBNP exhibits natriuretic, diuretic, vasorelaxant, antimitogenic, and lusitropic properties, all in one endogenous peptide. The native peptide has been successfully marketed in an IV infusion product for acutely decompensated CHF since 2001. However, the utility of an IV infusion is limited to hospitalized patients in the acute condition. Nobex aims to expand the utilization of this peptide in an oral tablet product to treat patients with early stage disease through overt CHF.

The Nobex technology was invented by Nnochiri Ekwuribe, PhD, who founded Nobex with the backing of private capital in 1993. Dr. Ekwuribe believed that insufficient medicinal chemistry had been applied to the issues of drug delivery and pharmacokinetics related to protein and peptide drugs. Characteristics of many native peptides, such as instability, low absorption, and rapid clearance were limitations that he believed could be mitigated by site-specific conjugation of unique amphiphilic polymers. Nobex has grown from a company of two employees in 1993 to more than forty today, adding screening pharmacology, product development, and experienced life-sciences management to its core foundation of medicinal chemistry. Nobex currently has three drugs in clinical trials: oral insulin for diabetes, oral calcitonin for osteoporosis and pain associated with vertebral fractures, and APAZA<sup>®</sup> for inflammatory bowel disease.

#### Contact Information:

Christopher H. Price, PhD  
President and CEO  
919.474.0507

Vicki Morgan  
Executive Director, Business Development  
919.474.0507

***SBTDC's SBIR/STTR Website***  
***[www.sbtdc.org/technology/sbirsttr.asp](http://www.sbtdc.org/technology/sbirsttr.asp)***