



Contacts:

For Tikvah Therapeutics, Inc.:  
Jack Callicutt +1 404-920-3182  
[jcallicutt@tikvahtherapeutics.com](mailto:jcallicutt@tikvahtherapeutics.com)

For Chakra Biotech:  
Anthony Bishop +65 9767 0227  
[anthony@chakrabiotech.com](mailto:anthony@chakrabiotech.com)

## **Tikvah Therapeutics, Inc. and Chakra Biotech Pte. Ltd. Establish Collaboration to Accelerate the Development of Novel Antipsychotic Compounds**

Atlanta, GA and Singapore, September 4, 2007 – Tikvah Therapeutics, Inc., a biopharmaceutical company focused on new treatment options to better manage central nervous system diseases, and Chakra Biotech Pte. Ltd., a drug discovery and development company focusing on central nervous system disorders, today announced a collaboration and option agreement designed to advance and accelerate the development of four compounds targeted at a broad range of psychiatric conditions, including schizophrenia and bipolar disorder from Chakra Biotech Pte. Ltd.'s developmental pipeline. These compounds have shown robustly positive results in the *chakragati* (*ckr*) mouse model, a patented transgenic mouse model for dopamine dysfunction that has been validated as a model for screening antipsychotic compounds.

“These novel compounds are potentially important new agents because they have been identified through a unique physiologically based transgenic mouse model of dopamine function. This greatly increases the likelihood of success in the clinic and reduces the time needed for successful development,” said Daniel E. Casey, M.D., professor of psychiatry and neurology at Oregon Health and Science University, in Portland. “Combining the Central Nervous System drug

development experience of Tikvah Therapeutics' personnel with the novel drug discovery capability of Chakra Biotech forges a strong partnership for advancing new treatments for a number of serious psychiatric and neurological illnesses."

The social and financial consequences of schizophrenia and bipolar disorder are substantial. Currently, there is a lack of adequate treatment options to alleviate positive, negative, and mood symptoms for many patients utilizing available antipsychotic medications; furthermore, significant side effects are frequently associated with the available medications.

"There is a considerable need for new broad-spectrum treatments with low side effect burdens for many psychiatric illnesses, including schizophrenia and bipolar disorder," said Dr. Harold H. Shlevin, President and Chief Executive Officer of Tikvah Therapeutics, Inc. "We are very excited by the opportunity to work closely with Chakra Biotech Pte. Ltd. to further the development of these potentially significant compounds with the goal of bringing hope to patients with these debilitating illnesses."

The four Chakra Biotech Pte. Ltd.'s compounds are fully synthetic and easily manufactured as single optical isomers. The lead compound CB030006 has been evaluated by *in vitro* and *in silico* analysis to be a dopamine D2 receptor antagonist with affinity levels unlikely to cause extrapyramidal side effects. The compound also has high affinity at the 5-HT2 receptors, particularly the 5-HT2A receptor. CB030006 also has 5-HT2C and 5-HT6 receptor antagonism similar to the current medications, olanzapine and clozapine. Additionally, CB030006 exhibits inhibition of noradrenaline reuptake, which may be associated with antidepressant and precognitive effects. CB030006 is predicted not to interact with the hERG channel decreasing the risk for drug-induced cardiac arrhythmia and sudden death. Results from *in silico* binding studies predict no interaction with histamine receptors associated with sedation, weight gain and associated drug-induced diabetes.

"We believe Tikvah Therapeutics is an ideal partner. The Tikvah team has extensive experience in the development of new pharmaceuticals for Central Nervous System disorders, including schizophrenia and bipolar disorder," said Anthony Bishop, Director at Chakra Biotech Pte. Ltd. "The collaboration with Tikvah Therapeutics will propel our development program forward toward human clinical trials."

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### **About Schizophrenia and Bipolar Diseases**

The social and financial consequences of schizophrenia and bipolar disorder are substantial. Schizophrenia is characterized by symptoms of hallucinations,

delusional beliefs, disorganized thinking or speech, social withdrawal and apathy. Bipolar disorder also known as manic depressive disorder is characterized by extreme shifts in mood, energy, and functioning. Examples of adverse side effects of commonly used medications for treatment of schizophrenia and bipolar include sedation; extrapyramidal effects such as tremors, acute muscle contractions, inner restlessness, stiffness and shuffling gait; cardiovascular effects including QTc prolongation; and metabolic effects including weight gain and diabetes.

### **About Tikvah Therapeutics, Inc.**

Tikvah Therapeutics, Inc., Atlanta, Ga., focuses on exploring new uses for late-stage pharmaceutical compounds in selected therapeutic indications of Central Nervous System diseases – neurology and psychiatry. Its focus is on new therapeutic uses which have been confirmed in multiple, clinical proof-of-concept studies. This strategy shortens product development timelines and substantially decreases the risk associated with the research and development efforts. A second prong of its strategy is to focus on specialized products with multiple stepping-stone indications and strong patent protections, thus helping to ensure long product life cycles and manageable commercial risk. For further information, please see [www.tikvahtherapeutics.com](http://www.tikvahtherapeutics.com).

### **About Chakra Biotech Pte. Ltd**

Chakra Biotech Pte. Ltd. is a Singapore-based drug discovery and development company aiming to improve the lives of people with Central Nervous System disorders. We have a portfolio of antipsychotic compounds and an exclusive license to a transgenic mouse model for dopamine dysfunction. The model exhibits a number of behavioral, anatomical and pharmacological characteristics of schizophrenia that parallel those found in humans and has been validated as a screen for antipsychotic compounds. The company is combining its unique screening model with an exclusively licensed library of novel compounds. This provides a solid foundation for discovering novel leads and advancing its pipeline towards human clinical trials. For more information please see [www.chakrabiotech.com](http://www.chakrabiotech.com).

### **FORWARD LOOKING STATEMENTS**

This press release contains certain forward-looking information that is intended to be covered by the safe harbor for "forward-looking statements" provided by the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts. Words such as "expect(s)," "feel(s)," "believe(s)," "will," "may," "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to, financial projections and estimates and their underlying assumptions; statements regarding plans, objectives and expectations with respect to future

operations, products and services; and statements regarding future performance. Such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of Tikvah Therapeutics Inc., that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include: those generally associated with developmental stage biopharmaceutical companies; the progress or likelihood of success of our product research and development programs; potential benefits from our collaboration with Chakra Biotech Pte. Ltd.; the status of our preclinical and clinical development of potential drugs; the likelihood of success of our drug products in clinical trials and the regulatory approval process; our drug products' efficacy, abuse and tamper resistance, onset and duration of drug action, ability to provide protection from overdose, ability to reduce the development of tolerance, ability to improve symptomatology or otherwise improve patients' symptoms; the incidence of adverse events; the ability to develop, manufacture, launch and market our drug products; our projections for future revenues, profitability and ability to achieve certain sales targets; our estimates regarding our capital requirements and our needs for additional financing; the likelihood of obtaining favorable scheduling and labeling of our drug products; the likelihood of regulatory approval under the Federal Food, Drug, and Cosmetic Act; our ability to develop safer and improved versions of widely-prescribed drugs using our technology; and our ability to obtain favorable patent claims. Readers are cautioned not to place undue reliance on these forward- looking statements that speak only as of the date hereof. Tikvah Therapeutics Inc. does not undertake any obligation to republish revised forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

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