



**Auspex Pharmaceuticals Announces Positive Results from Clinical Study  
of SD-254, A Next-Generation Potential Treatment for Depression**

**-- Deuterium-Substituted Version of Venlafaxine Exhibits Improved Pharmacokinetic Profile --**

**VISTA, CA (October 23, 2008):** Auspex Pharmaceuticals, a developer of next-generation medicines with improved safety and performance through the targeted deuteration of clinically validated drugs, today announced positive results from its Phase 1 clinical trial evaluating SD-254, a Selective Serotonin-Norepinephrine Reuptake Inhibitor (SNRI). Auspex is developing SD-254, a deuterium-substituted version of venlafaxine, for the treatment of Major Depressive Disorder.

In the clinical study, conducted in 16 healthy volunteers, SD-254 exhibited a pharmacokinetic profile that appears to be superior to that of venlafaxine and consistent with that required for increasing safety and reducing side effects relative to existing therapies, while maintaining high patient response rates. The company is planning additional studies to build on these observations and support an overall development plan for demonstrating safety and efficacy.

"These results represent the first validation in humans of targeted deuterium substitution as a strategy for improving the pharmacokinetics and thus potentially the safety and performance of drugs," said founding scientist and Chief Scientific Officer, Dr. Thomas G. Gant. "SD-254 has passed the first hurdle towards demonstrating the desired pharmaceutical profile, and we look forward to advancing its development."

"With the achievement of this important clinical milestone, Auspex has successfully demonstrated the power of the drug deuteration concept for the first time in man," said Dr. Pratik Shah, Executive Chairman. "Depending on the drug class, this approach can potentially lead to a variety of beneficial effects, including longer duration of action, improved safety profile, reduced levels of toxic metabolites and reduced inter-patient variability. The success we have announced today demonstrates Auspex's ability to build on its strong intellectual property position across multiple therapeutic areas and to continue to generate drug candidates that address significant market opportunities."

The deuteration approach also allows preservation or augmentation of known, desired pharmacology. SD-254, for example, has intrinsic pharmacology and physicochemical characteristics that are virtually indistinguishable from venlafaxine, yet the metabolic profile is postulated to produce a drug that may reduce known side effects.

**About Auspex Pharmaceuticals**

Auspex Pharmaceuticals, founded in 2001, is a developer of next-generation medicines with improved safety and performance and a pioneer in the targeted application of deuterium chemistry to clinically validated drugs. Deuterium is a naturally occurring, safe and stable isotope of hydrogen. The human body contains on average over one gram of deuterium and individuals consume several grams of deuterium annually through their diet. For many years the company has worked to apply its targeted deuteration strategy to drug molecules across multiple therapeutic areas. Concurrently, Auspex has secured a proprietary position on several hundred compounds and has initiated development of multiple clinical candidates. The goal of the company's targeted deuteration strategy is to impart greater safety over existing agents, while maintaining or improving efficacy through the judicious use of deuterium as a replacement for metabolically labile hydrogen atoms. The Auspex approach can rapidly generate potential best-in-class therapeutics for significant markets, while reducing the time, cost and risk of drug development. For more information on Auspex Pharmaceuticals, please visit the company's website at [www.auspexpharma.com](http://www.auspexpharma.com).

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