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NTP-2014

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NeuroTherapeutics Pharma, Inc. (NTP) is a biopharmaceutical company that is developing new therapies to treat epilepsy, pain and other nervous system disorders. NTP has identified a novel mechanism of action and is advancing compounds which will create a new class of therapy.

NTP's compounds, which act through a previously unexplored mechanism of action, control excessive discharge of the nervous system in a unique way. NTP's compounds increase inhibition through pre-synaptic modulation of a natural control mechanism in the brain, the effect of which is to decrease or eliminate aberrant excitatory neuronal discharges. Extensive nonclinical and pharmacology studies have demonstrated that the pre-synaptic inhibition of this mechanism primarily acts during periods of excessive neuronal discharge and has little to no activity during normal (healthy or resting) states. These effects are distinct from classic post-synaptic inhibitory mechanisms, by drugs such as benzodiazepines and barbiturates, which are chronically active.

This new mechanism has the potential to offer patients a new way to treat the disorder and improve upon both efficacy and safety. In preclinical studies, the company's lead compound, NTP-2014, demonstrated strong efficacy in multiple studies of epilepsy and neuropathic, acute and inflammatory pain. Further, NTP-2014 exhibits a strong safety pharmacology profile and toxicology results. An Investigational New Drug (IND) application for NTP-2014 was submitted in February 2011.

NTP-2014 has shown consistent and significant efficacy in models of epilepsy. In a rigorous model of treatment-resistant, or refractory, complex partial epilepsy (MTLE – Mesial Temporal Lobe Epilepsy), NTP-2014 showed near complete suppression of discharges and dose dependent activity. In this model, NTP-2014 reduced seizure activity well beyond that of all four positive controls, each of which is a blockbuster drug currently used in epilepsy. In another model of refractory complex partial seizures (6 Hz Psychomotor Seizure), NTP-2014 eliminated seizures where, again, multiple blockbuster products are known to have no efficacy. Finally, in an acute seizure model (MES), NTP-2014 showed complete protection from seizure activity for the duration of the four hour study. The company plans to conduct single and multiple dose Phase 1 studies followed by Phase 2a studies in neuropathic pain, acute pain and epilepsy. The company will concurrently review and consider the compound's potential application in other indications.

As illustrated by two sub-chronic GLP toxicology studies, in addition to multiple safety pharmacology and CNS behavioral tests, NTP-2014's safety profile is very favorable. The tox studies demonstrated excellent safety profiles in both rodent and non-rodent species. NTP-2014 also exhibits an excellent safety pharmacology profile after hERG, CYP, AMES and wide ranging receptor safety tests. Further, in oral Irwin tests (a battery of 37 CNS behavioral tests), NTP-2014 showed a very favorable profile.

NTP is led by a management team with significant drug development experience and financially backed by a well respected group of venture capital investors. The company raised a \$43 million Series B financing in May of 2010, which included participation from Fidelity Biosciences, MPM Capital, Novo Ventures, Pfizer, SR One and Thomas McNerney & Partners. The company is privately held and based in Chicago.