DIFFUSION PHARMACEUTICALS LLC ANNOUNCES PUBLICATION OF THREE STUDIES TESTING TRANS SODIUM CROCETINATE (TSC) STATISTICALLY SIGNIFICANT RESULTS SEEN IN ANIMAL MODELS OF PRIMARY BRAIN CANCER, CEREBRAL ISCHEMIA AND STROKE

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Charlottesville, VA –February 23, 2010 – Diffusion Pharmaceuticals LLC today announced that three separate preclinical studies testing its lead drug candidate trans sodium crocetinate, (TSC), have been published in peer-reviewed journals during the last six months. These studies demonstrate that TSC improves tissue oxygenation in hypoxic brain tumor tissue, exerts a neuroprotective effect against ischemic injury in brain tissue and shows efficacy in a rabbit model of acute ischemic stroke. The brain tumor and neuroprotection studies were published in the Journal of Neurosurgery and the stroke study was published in the journal Brain Research."The data are highly statistically significant, providing further evidence that TSC safely enhances the diffusion of oxygen into hypoxic tissue in a variety of circumstances," said David Kalergis, Chief Executive Officer of Diffusion Pharmaceuticals. "Follow-on studies in all three laboratories are either currently ongoing or in the advanced planning stage."

Brain Tumor Oxygenation Study:

"Effect of Trans Sodium Crocetinate on Brain Tumor Oxygenation," by Jason Sheehan, MD, PhD, Department of Neurological Surgery, University of Virginia, et al, was published in the Journal of Neurosurgery's August 2009 issue (Volume 111 number 2). The publication's abstract may be seen on the Journal's Website at http://thejns.org/doi/abs/10.3171/2009.3.JNS081339.

This study used a rat primary brain cancer model. Electrode probe measurements demonstrated that the brain tumor tissue was hypoxic (oxygen deprived) relative to non-tumor brain tissue, which is a well known phenomenon. Several minutes after TSC was infused, the probes showed that tissue oxygenation measurements in the brain tumor increased above baseline by as much as 60% while no significant changes were seen in probe readings from normal, non-tumor brain tissue. The study concludes that administration of TSC improves tissue oxygenation in hypoxic brain tumor tissue without hyper-oxygenating normal tissue.

This enhanced tissue oxygenation effect is the ascribed mechanism for the radiosensitization of hypoxic brain tumor tissue previously observed by Dr. Sheehan, et al, in the same model after infusion of TSC.

Cerebral Ischemia Study:

The study "Protection Against Focal Ischemic Injury to the Brain by Trans-Sodium Crocetinate," by H. Manabe, PhD and K. Lee, PhD, published in the December 2009 issue of the Journal of Neurosurgery, demonstrates the ability of TSC to enhance oxygenation in ischemic brain tissue, providing a neuroprotective effect in a rat model of ischemic stroke. An abstract of this publication may be seen online athttp://www.ncbi.nlm.nih.gov/pubmed/19961314. A podcast featuring Dr. Lee discussing TSC and its neuroprotective effects can be heard on the Journal's Website

at http://jnsonline.org/2009/12/04/protection-against-focal-ischemic-injury-to-the-brain-by-trans-sodium-crocetinate/.

In these studies, adult male rats were subjected to brain ischemia by surgical methods which greatly diminished blood flow to the brain. TSC significantly enhanced the amount of oxygen reaching the affected brain tissue under these conditions. The authors noted that TSC's oxygenation-enhancing effect might limit the progression of a variety of cellular injury mechanisms by blunting the ischemic challenge to the brain.

Ischemic Stroke Study:

"Efficacy and Safety Profile of the Carotenoid Trans Sodium Crocetinate Administered to Rabbits Following Multiple Infarct Ischemic Strokes: A Combination Therapy Study With Tissue Plasminogen Activator," authored by Paul A. Lapchak, PhD, Director of Translational Research at Cedars-Sinai Medical Center in Los Angeles, CA was published in the Januray 2010 issue of Brain Research. Dr. Lapchak will present the findings of this study at the International Stroke Conference held in San Antonio, Texas, February 24-26, 2010.

This study used a rabbit model subjected to an injection of blood clots into the brain, mimicking an actual human stroke. Rather than measuring brain tissue oxygen levels, the data here measured deficits in physical functions frequently seen following strokes. The abstract of the publication is available on the PubMed.gov Website at http://www.ncbi.nlm.nih.gov/pubmed/19891959.

In this study, either TSC or saline was administered following injection of small blood clots into the brain vasculature. Behavior was measured 24 hours after embolization to calculate the effects. A treatment is considered beneficial if it significantly decreases functional deficits. This study suggests that TSC may be used for the treatment of acute ischemic stroke either alone or when administered before, or concomitant with, Tissue Plasminogen Activator (tPA). tPA, the main anti-stroke drug used today, was found to be beneficial over a broader window of time if TSC was given first. The study suggests that TSC may either be used as a monotherapy or in combination with current FDA-approved thrombolytic therapy to improve motor function in acute ischemic stroke patients.