

To: NFLPA Executive Committee and Player Representatives

Date: February 1, 2016

From: NFLPA and Jeffrey Kutcher, MD, Executive Director, The Sports Neurology Clinic

Re: Tau Protein Antibody

The following is intended to provide important information regarding a recent research publication relevant to CTE (chronic traumatic encephalopathy) titled: [Antibody against early driver of neurodegeneration cis P-tau blocks brain injury and tauopathy](#). Kondo, et al. *Nature*. July, 2015. This study is a part of The Football Player Health Study at Harvard University, the NFLPA's research partnership with Harvard and its affiliates.

The NFLPA and its scientific advisors will continue to keep you informed about the latest medical studies relevant to our player population. The next scientific literature review will be included in the NFLPA Annual Report.

The research paper noted above ([and found here](#)) was recently published in the highly respected journal *Nature* this past summer. The fact that the paper was published in *Nature* is a sign of both the quality and importance of the work. It is relevant to the NFLPA community because the authors describe a new and important link in understanding the process of developing CTE and even suggest a potential line of treatment or prevention.

CTE has been widely discussed in the media and is the main subject of the recent movie *Concussion*. So far, what we know is that CTE involves an abnormal collection of a protein called *tau*. The tau protein is seen to collect in clumps inside of brain cells in many diseases, including CTE. How the tau becomes clumped together is not known. So far, efforts to address these collections in order to treat tau related diseases have not been successful.

The authors of this paper have uncovered an important step in the tau clumping process. After brains of humans, or mice, experienced a substantial force, a substance called "cis P-tau" is produced by brain cells. This substance may then go on to help form the clumps of *tau* that are found in patients who are thought to have CTE. Even more, the authors describe a potential treatment, using another substance that blocks the activity of cis P-tau.

Gaining an understanding of the clumping process is extremely helpful, as it moves the research ball down the field, closer to the goals of having a diagnostic test and treatment for CTE. At this stage, however, we still have a way to go before either is available to our patients.

Dr. Jeffrey Kutcher is a sports neurologist and Executive Director of The Sports Neurology Clinic, headquartered in Southeast Michigan. Previously, Dr. Kutcher established the Sports Neurology Section of the American Academy of Neurology and developed the nation's first academic sports neurology program. He is a team physician for the United States Ski and Snowboard Association and was the Team Neurologist for the United States at the 2014 Olympic Winter Games in Sochi,

Russia. Additionally he is a member of the NFLPA Mackey-White Health and Safety Committee and a consultant to the NHL Players Association. If you'd like additional information or have any questions at all, contact Dr. Kutcher at:

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