KELLY STANDIFER, OU HEALTH SCIENCES CENTER

Imagine turning off inflammation, and some of the painful conditions it causes such as arthritis and fibromyalgia, as easily as you turn a light on or off. An Oklahoma researcher has discovered the way one natural brain substance impacts a signal that tells a cell how to respond to its environment.

Dr. Kelly Standifer, professor and chair of the department of pharmaceutical sciences at the University of Oklahoma Health Sciences Center, and her team of researchers were awarded OCAST funding to study how this naturally occurring brain substance called a peptide reduces the “addictive” potential of often-abused drugs such as morphine and alcohol.

In the course of those studies, Dr. Standifer and her team discovered that this peptide in the brain (nociceptin) turns on a pathway in the body that is involved in the body’s response to stress and inflammation. If this process can be modulated by drugs that mimic or block the actions of nociceptin, then it may be possible to regulate inflammation.

Millions of sufferers of common inflammation-related disorders and diseases including fibromyalgia, rheumatoid arthritis and orofacial or visceral pain could benefit from the discovery of this new potential anti-inflammatory target.

Dr. Standifer’s research findings from the OCAST-funded project caught the attention of the Department of Defense. They are interested in how regulating the inflammation process could reduce swelling and long term damage from brain injuries caused by explosive devices and sudden impacts and reduce the severity of Post-Traumatic Stress Disorder symptoms and chronic pain.

The department of pharmaceutical sciences at the OU Health Sciences Center also has benefited from the availability of OCAST awards as a potential source of funding for new faculty members. Just last year, they recruited three new faculty members in highly specialized pharmaceutical science fields from research institutions in other states, to continue their research on funded projects as well as bring in more funding for future discoveries.

Read more about Dr. Standifer