TECHNOLOGY OFFER

technology transfer heidelberg

069: Prevention and treatment of pain in diabetes mellitus patients

Key Facts

- ✓ Improved treatment of diabetes mellitus induced neuropathy
- ✓ A new peptide for scavenging methylglyoxal

The Technology

A new Peptide which allows an improved treatment of diabetes mellitus patients suffering from methylglyoxal induced pains (neuropathy, hyperalgesia). This peptide is a scavenger of methylglyoxal and/or reactive carbonyl species (RCS).

Background

Formation of methylglyoxal and related reactive carbonyl species (RCS) is closely linked to the rate of glycolysis and the presence of glycolytic intermediates. Hence, in conditions where there is increased glycolytic flux and an increased dependence on glycolysis for energy, the rate of **methylglyoxal** and RCS formation will also be increased. This has been shown to be the case in **patients with diabetes mellitus**, where complications such as **nephropathy, neuropathy and retinopathy** have been linked to increases in cellular levels of advanced glycation endproducts (AGEs). While diabetes has been the main area of research, new evidence is now emerging of the pivot role that RCS, in particularly **methylglyoxal, might also play a role in the progression and severity of other diseases.**

Advantages

- ✓ short Peptide
- ✓ successfully tested in animal model
- ✓ specific

Commercial Opportunity

Drug Development

Inventors

Bierhaus, Fleming & Nawroth (University Clinic Heidelberg)

Intellectual Property

PCT/EP2010/003186
CA 2761629
CN 201080023673.9
EP 10 721 006.4-2405
JP 2012-512249
MX/a/2011/012742
US 13/319,473

References:

Bierhaus A, Fleming T, Stoyanov S, Leffler A, Babes A, Neacsu C, Sauer SK, Eberhardt M, Schnölzer M, Lasischka F, Neuhuber WL, Kichko TI, Konrade I, Elvert R, Mier W, Pirags V, Lukic IK, Morcos M, Dehmer T, Rabbani N, Thornalley PJ, Edelstein D, Nau C, Forbes J, Humpert PM, Schwaninger M, Ziegler D, Stern DM, Cooper ME, Haberkorn U, Brownlee M, Reeh PW, Nawroth PP. Methylglyoxal modification of Na(v)1.8 facilitates nociceptive neuron firing and causes hyperalgesia in diabetic neuropathy. Nat Med. 2012 May 13. doi: 10.1038/nm.2750. [Epub ahead of print] PubMed PMID: 22581285.

Contact:

technology transfer heidelberg GmbH
Im Neuenheimer Feld 672
D-69120 Heidelberg
Germany
Email: tt-team@med.uni-heidelberg.de

UniversitätsKlinikum Heidelberg