Targeting Chronic Pain with Potentially Limited Risk of Addiction

John Pintar

Director, Rutgers Robert Wood Johnson Graduate Program in NeuroscienceProfessor, Neuroscience and Cell Biology

CURRENT RESEARCH

Novel analgesic targets can potentially reduce side effects and addiction for pain medication

Chronic pain is an ongoing medical condition that results in over $600B annual medical costs in the US. The most effective medications for chronic pain remain opioid-based treatments that have significant side effects and potential for abuse and addiction. Dr. John Pintar, Professor of Neuroscience and Cell Biology at Rutgers Robert Wood Johnson Medical School, leads the only group in the world that uses specific genetic models that they have developed to indicate novel targets for treating chronic pain independent of the opioid system. Considering that over 2,500 youths/day abuse a prescription drug for the first time and 25% of teens are reported to have abused pain-related prescription drugs, Dr. Pintar's research in identifying new targets to treat pain potentially devoid of other side effects will greatly advance healthcare and reduce risks for addiction.

Dr. Pintar's molecular and genetic approach is very novel and unique in that it recognizes the importance of genetic strain background in modifying the response to mutations in genes that mediate the opioid response in mice. By breeding these mutant genes onto different strain backgrounds, Dr. Pintar and his team have been able to identify totally unexpected analgesic responses and discovered that there are very few and even potentially only one unknown gene that controls theses unique analgesic responses in each of these strains. Applying this approach to two different mutant genes as well as to an individual strain whose mutation to not feel pain arose independently, Dr. Pintar's group continues to make strides by locating the region of the chromosome in which the modifying mutations are found, and hopes to identify the precise targets that mediate...

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AFFILIATION

Rutgers University

EDUCATION

- Postdoc in Neurochemistry & Genetics 1981, Yale University School of Medicine
- Ph.D. in Developmental Biology 1977, University of Oregon
- B.A. in Biology, Chemistry 1970,Case Western Reserve University

AWARDS

- Rutgers Robert Wood Johnson Medical School Schlessinger Mentoring Award, 2014
- Fulbright Senior Scholar, 1991
- Charles Judson Herrick Award as Outstanding Young Anatomist, 1985
- Irma T. Hirschl Career Scientist Award, 1983
- James Hudson Brown Postdoctoral Fellowship, 1979

RESEARCH AREAS

Life Science, Genomics / Congenital, Neurological / Cognitive, Neurological / Cognitive

FUNDING REQUEST

Your contributions will help continue Dr. John Pintar's research at Rutgers University as he identifies novel analgesic targets that are not opioid-based and free of abuse and addiction. Donations will help fund the ~$300K/year required to support both maintenance of different mouse strains and costs of personnel and genetic analysis. Smaller donations will help any one of the projects to make significant, tangible process. Fund Dr. Pintar to develop safe and effective pain treatments.