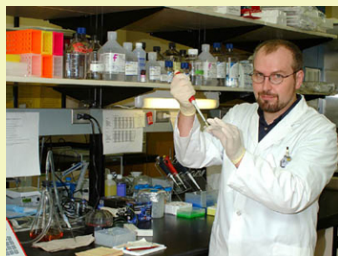


Jak2 Mouse diagram



Inventors

- Kay-Uwe Wagner

UNeMed currently offers a variety of licensing options and collaborative development opportunities with the University of Nebraska Medical Center

Contact Information:

Matthew Boehm
Licensing Specialist
E: mboehm@unmc.edu

Jak2 Conditional Knockout Mouse

Technology Fields: Research Tools - Animal Models

Technology ID: 111

Summary

JAK-STAT signaling is one of the key signaling pathways involved in different types of cancer and inflammatory diseases. One of the obstacles of studying the pathway is that conventional JAK2 knockout mice are embryonic lethal. Our conditional JAK2 knockout mouse model allows for tissue specific deletion of JAK2 and subsequent investigation of the importance of JAK2 signaling within the particular tissue(s). The conditional knockout (floxed) allele of JAK2 was generated by placing loxP sites around the first coding exon of Jak2 and the conversion of the floxed allele into a null mutation can be achieved when the mouse is crossed with another strain carrying a tissue specific Cre. The model has been used in Dr. Wagner and his collaborators' labs to study the direct function of Jak2 in multiple tissues and diseases.

Market Value

This unique Jak2 conditional knockout mouse will likely be useful in further understanding signaling events dependent upon Jak2 and its downstream effector molecules. This knowledge will ultimately be useful in determining novel drug delivery pathways for multiple disease conditions which use this pathway of cell signal transduction.

Features and Benefits

- Animal model which allows ablation of Jak2 in specific cell types
- Can be applied to study cytokine and hormone signalling in various types of tissues
- Potential drug delivery system for Jak2 associated pathways

Publications

- Krempler, A.; Y. Qi; A.A. Triplett; J. Zhu; H. Rui and K.-U. Wagner (2004): Generation of a conditional knockout allele for the Janus Kinase 2 (Jak2) gene in mice. *Genesis* 40 (1):52-57. [Link](#)
- Sakamoto K et al (2010). Jak 2 is required for the initiation but not maintenance of prolactin-induced mammary cancer. *Oncogene* 29: 5359-5369. [Link](#)

UNEMED:

986099 Nebraska Medical Center
Omaha, Nebraska 68198-6099
P 402.559.2468 F 402.559.2182
unemed.com