



Bone Morphogenetic Protein Receptor type 1B (BMPR1B or Alk6) Knockout Mouse

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INNOVATION

Bone Morphogenetic Protein Receptor type 1B (BMPR1B) is a member of the bone morphogenetic protein (BMP) receptor family of transmembrane serine/threonine kinases. BMPs are involved in endochondral bone formation and embryogenesis. BMP signaling is essential for multiple aspects of early chondrogenesis. BMPR1B has distinct signaling properties compared to other BMP receptors. In particular, activation of this receptor causes mesenchymal stem cells to become osteoblasts. Researchers at UCLA have developed BMPR1B (Alk6)-deficient mice and the phenotypes of tissues or cells from these mice reveals whether or not this gene is required for cell proliferation, differentiation, survival, etc. BMPR1B knockout cells could be used to screen for drugs that specifically target this receptor with the goal of developing bone anabolic agents.

RELATED MATERIALS

- [The type I BMP receptor BMPRI is required for chondrogenesis in the mouse limb; Development127, 621-630.](#)

CONTACT

UCLA Technology Development Group  
[ncd@tdg.ucla.edu](mailto:ncd@tdg.ucla.edu)  
tel: 310.794.0558.



INVENTORS

- Lyons, Karen

OTHER INFORMATION

KEYWORDS

Mouse model; research tool; Bone morphogenetic protein receptor type 1B; BMPR1B; Activin receptor-like kinase 6; ALK6; cartilage; anabolic agent; osteoblast; chondrogenesis; osteoporosis

CATEGORIZED AS

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