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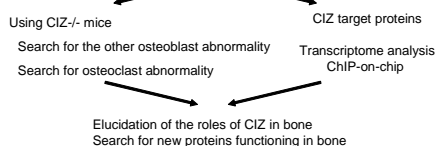
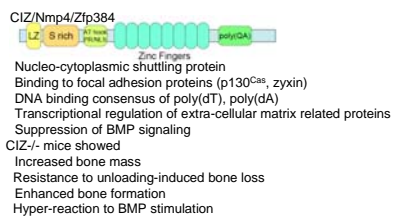
COE Research Associate Professor

Main Research Projects

1. Roles of CIZ in bone
2. Transcriptional targets of CIZ

Abstract

The nucleocytoplasmic shuttling protein CIZ regulates the transcription of extracellular matrix-related genes. In CIZ-deficient mice, increased bone mass and resistance to unloading-induced bone loss were observed. These phenotypes were caused by enhanced bone formation by osteoblasts. I expect that the other osteoblast functions are also enhanced in CIZ-deficient mice.



At the same time, I search for the targets of CIZ protein, using transcriptome analysis and ChIP assay. Based on these results, I am looking for new genes that are involved in bone formation.

Papers

1. Hino, K., Nakamoto, T., Nifuji, A., Morinobu, M., Yamamoto, H., Ezura, Y., Noda, M. Deficiency of CIZ, a nucleocytoplasmic shuttling protein, prevents unloading-induced bone loss through the enhancement of osteoblastic bone formation in vivo, *Bone* 40:852-860,2007

2. Morinobu, M., Nakamoto, T., Hino, K., Tsuji, K., Shen, Z.J., Nakashima, K., Nifuji, A., Yamamoto, H., Hirai, H., Noda, M. The nucleocytoplasmic shuttling protein CIZ reduces adult bone mass by inhibiting bone morphogenetic protein-induced bone formation. *J Exp Med* 201:961-970, 2005

3. Nakamoto, T., Shiratsuchi, A., Oda, H., Inoue, K., Matsumura, T., Ichikawa, M., Saito, T., Seo, S., Maki, K., Asai, T., Suzuki, T., Hangaishi, A., Yamagata, T., Aizawa, S., Noda, M., Nakanishi, Y., Hirai, H. (2004). Impaired spermatogenesis and male fertility defects in CIZ/Nmp4-disrupted mice. *Genes to Cells* 9, 575-589.

4. Shen, Z. J., Nakamoto, T., Tsuji, K., Nifuji, A., Miyazono, K., Komori, T., Hirai, H. and Noda, M. (2002). Negative Regulation of Bone Morphogenetic Protein/Smad Signaling by Cas-interacting Zinc Finger Protein in Osteoblasts. *J Biol Chem* 277, 29840-29846.

5. Nakamoto, T., Yamagata, T., Sakai, R., Ogawa, S., Honda, H., Ueno, H., Hirano, N., Yazaki, Y. and Hirai, H. (2000). CIZ, a zinc finger protein that interacts with p130(cas) and activates the expression of matrix metalloproteinases. *Mol Cell Biol* 20, 1649-58.