

Docket #: S06-335

Pbx2 knockout mice

Researchers in the laboratory of Michael Cleary at Stanford University have developed a mouse that lacks the transcription factor Pbx2. Pbx2 is a TALE (three amino acid loop extension) class homeodomain transcription factor that is widely expressed during embryonic development. The protein is a component of protein-complexes implicated in developmental gene expression. It is highly related to Pbx1, the product of a human proto-oncogene. (Pbx1 knock-out mice are available under [Stanford Docket S06-327](#).) Pbx2 null mice do not have detectable embryonic or post-natal deficiencies, likely due to redundancy with other members of this multigene family. However, its compound deficiency with Pbx1 results in new phenotypes not evident with absence of Pbx1 alone.

Ongoing Research

The mice are being studied to further characterize Pbx2 contributions in the context of other Pbx gene deficiencies.

Applications

- **Research** - on embryonic development and tissue homeostasis

Advantages

- ***In vivo* vertebrate model**

Publications

- Selleri L, DiMartino J, van Deursen J, Brendolan A, Sanyal M, Boon E, Capellini T, Smith KS, Rhee J, Popperl H, Grosveld G, Cleary ML. ["The TALE homeodomain protein Pbx2 is not essential for development and long-term survival."](#) *Mol Cell*

Innovators

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