# MOUSE MODEL FOR STUDYING INTEGRIN B8 IMPORTANT IN DEVELOPMENT AND HOMOESTASIS: ITGB8 TRANSGENIC MICE

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## BRIEF DESCRIPTON

UCSF researchers have developed a mouse model to understand and evaluate the role of integrin 8 (itg8) in specific cell types. These mice can be used in the screening and development of therapeutics targeting itg8. by incorporating loxP sites into specific regions of the integrin 8 locus (itg8-floxed mice). The floxed mice are viable, fertile, and show no obvious phenotype. Tissue-specific itg8 gene deletion is accomplished by cross-breeding the itg8-floxed mice with tissue-specific Cre-recombinase expressing mice. This conditional deletion system circumvents the early lethality of the complete genetic knockout of itg8.

## FULL DESCRIPTON

Integrins are a large family of heterodimeric extracellular matrix (ECM) receptors that mediate cell growth, cell adhesion, cell migration, and tissue organization. Therefore, integrins play an important role in development and physiological homeostasis. In particular, integrin 8 has been shown to be involved in various processes, including: vascular development in yolk sac, placenta, and brain; inhibition of epithelial cell growth and tumor growth; proper function of synapse and sensory neurons. UCSF researchers have developed a targeted deletion strategy to delete integrin 8 (itg8) only in specific cell types by incorporating loxP sites into specific regions of the integrin 8 locus (itg8-floxed mice). The floxed mice are viable, fertile, and show no obvious phenotype. Tissue-specific itg8 gene deletion is accomplished by cross-breeding the itg8-floxed mice with tissue-specific Cre-recombinase expressing mice. This conditional deletion system circumvents the early lethality of the complete genetic knockout of itg8.

## APPLICATIONS

- Research tools for deciphering the roles of itg8 in specific tissues, identifying targets in itg8-mediated pathways, and screening therapeutics directed against itg8.

## OTHER INFORMATION

- Proctor, et al. (2005) J. Neuroscience, Vol. 25 (43), pp. 9940-9948

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OTHER INFORMATION

CATEGORIZED AS

- Research Tools
  - Animal Models

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