TRM: HIF-1 alpha KO Mice (CRE)

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BACKGROUND

Hypoxia-inducible factor 1-alpha is a transcriptional regulator of the adaptive response to hypoxia. When activated under hypoxic conditions, it can turn on over 40 genes involved in a variety of physiological activities. The dysregulation or alteration by mutation can lead to pathophysiology in areas of energy metabolism, cancer, cell survival and tumor invasion.

TECHNOLOGY DESCRIPTION

These mice possess *loxP* sites on either side of exon 2 of the targeted gene. Mice that are homozygous for this allele are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. When these mutant mice are bred to mice that express Cre recombinase, resulting offspring will have exon 2 deleted in the *cre*-expressing tissue(s).

APPLICATIONS

Mice from this strain can be crossed to strains expressing Cre recombinase in various tissues and may be useful for studies of the role of HIF transcription factors in von Hippel-Landau syndrome, adult erythropoiesis, inflammation, mammary epithelium, tumor angiogenesis, and lung development as examples.

STATE OF DEVELOPMENT

The mice are designated Tangible Research Material (TRM). A complete description, including genotyping, phenotyping, etc is found at The Jackson Lab cat. No. 007561; https://www.jax.org/strain/007561

INTELLECTUAL PROPERTY INFO

Academic and non-profit institutions please order directly from The Jackson Laboratory. Commercial entities require a license from UC San Diego contact (https://innovation.ucsd.edu/contact/).

CONTACT

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OTHER INFORMATION

KEYWORDS

Hypoxia, transcriptional regulator, HIF,

Hypoxia-inducible factor 1-alpha

CATEGORIZED AS

- **Agriculture & Animal Science**
  - Other
- **Medical**
  - Disease: Respiratory and Pulmonary System
  - Research Tools
- **Research Tools**
  - Animal Models

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