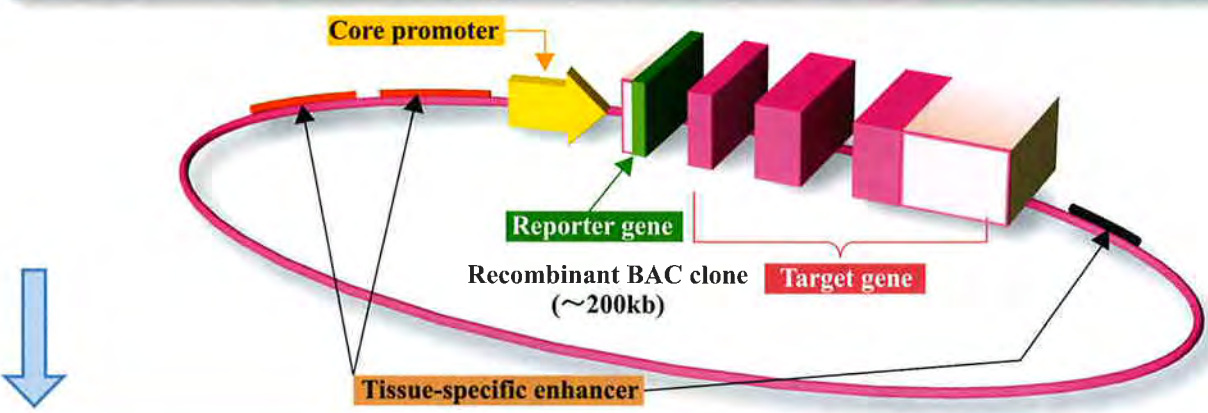


BAC Transgenics Services

The BAC transgenic vectors, containing the endogenous protein regulatory sequences have been introduced to the pronuclear ova. By using a BAC construct we can expect to have the same expression profiles as the endogenous gene and as a result, the relative transcription rates for each gene can be assayed. (We call this the "Semi-Knockin strategy")

Semi-Knockin® Strategy

BAC Recombineering



Pulsed Field Gel Electrophoresis



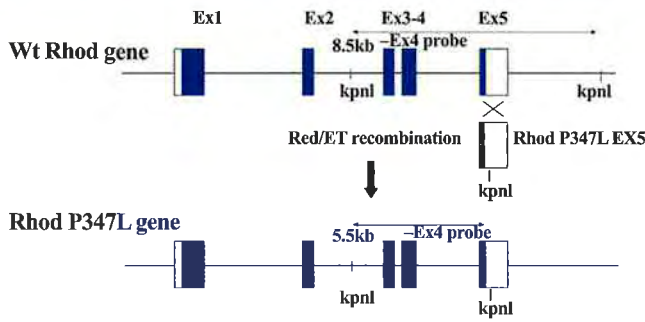
Microinjection, Southern blotting

Reasons to choose Semi-Knockin®

Method	Target gene	Time line	Price *	Animals *	Tissue selective expression
Semi-Knockin	All	6 Months	affordable	mice, rats, rabbits available	Near perfect
Conventional transgenic	limited	6 Months	low	mice, rats, rabbits available	Poor
Knock-in	All	18 Months	expensive	Only the 129-Mouse Strain available	Perfect

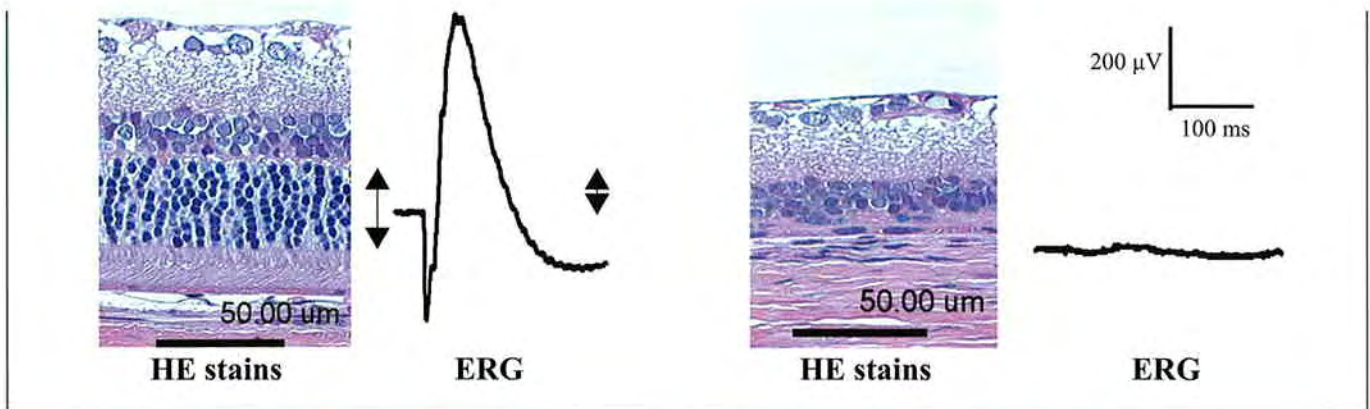
*Representative of PhoenixBio only

Semi-Knockin[®] Retinopathy Rats with a Human Rhodopsin Mutant



Control Rats
(5-months)

Semi-Knockin Retinopathy Rats
(4-months)



Quick Degeneration of Retinal Tissues in human Rhodopsin P347L mutant BAC transgenic Rats.

Applications for Drug Discovery and Development

The Semi-Knockin animals can be utilized for numerous purposes in the field of drug discovery and development. The following are examples of possible uses for the Semi-Knockin animals :

- *In vivo* molecular and cellular imaging for drug targets
- Production of human genetic disease model animals
- Investigating the pharmacology and toxicology of antibody therapeutics
- *In vivo* screening of specific drugs for human receptors

