ENVIGO

Genetically engineered models (GEMS)

VIP-Cre knockin rat

Model	VIP-Cre knockin rat
Strain	HsdSage:LE-*VIP*$^{tm1(T2A\text{-}Cre)Sage}$
Location	U.S.

Characteristics/husbandry

+ Specific expression of floxed constructs in VIP positive GABAergic neurons
+ Cre recombinase driven by endogenous VIP promoter
+ No observed ectopic expression of cre
+ Targeted insertion eliminates possible gene disruption that may occur in random insertion technologies such as BAC
+ Background strain: Long Evans Hooded

Zygosity genotype

+ Heterozygous

Research use

+ Optogenetics
+ Expression/knockout of floxed genes

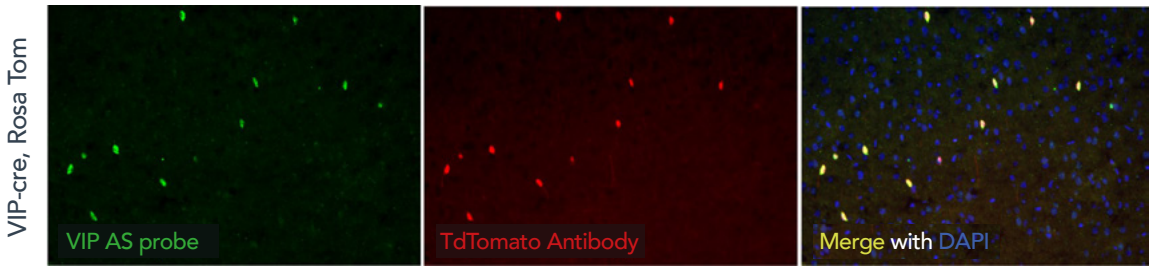
Origin

The VIP-Cre KI rat model was originally created at SAGE Labs, Inc. in St. Louis, MO and distributed out of the Boyertown, PA facility. The line continues to be maintained through the original SAGE Labs animal inventory acquired by Envigo.

Description

This model expresses cre-recombinase under the control of the endogenous vasoactive intestinal peptide (VIP) promoter enabling specific expression in VIP positive GABAergic interneurons. This model possesses a targeted insertion of (T2A)-cre immediately before the translational stop in the open reading frame of the VIP gene. The VIP-Cre rat is useful for applications requiring tissue specific expression, including optogenetics and breeding with transgenic floxed lines.

Figure 1. VIP anti-sense probe mRNA in situ hybridization and anti-Tdtomato antibody staining confirms the correct expression pattern of Cre recombinase in the VIP positive neurons in the brain of VIP-cre, Rosa Tom rats.



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