

# VIP-Cre knockin rat

<b>MODEL</b>	VIP-Cre knockin rat
<b>STRAIN</b>	HsdSage:LE-VIP <sup>em1(T2A-Cre)</sup> Sage
<b>LOCATION</b>	U.S.
<b>AVAILABILITY</b>	Live colony



## 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

- Homozygous

## RESEARCH USE

- Optogenetics
- Expression-knockout of floxed genes

## ORIGIN

The VIP-Cre knockin rat model was originally created at SAGE Labs, Inc. in St. Louis, MO. The animal inventory was acquired by Envigo in 2019 and then by Inotiv in 2021. The line continues to be maintained through the original SAGE Labs animal inventory and is distributed out of the Boyertown, PA facility.

## 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.