



Vgat-Cre knockin rat

Model	Vgat-Cre knockin rat
Strain	HsdSage:LE-VGAT ^{tm1(IRES-Cre)} Sage
Location	U.S.
Availability	Live colony

Characteristics/husbandry

- + Specific expression of floxed constructs in Vgat positive GABAergic neurons
- + Cre recombinase driven by endogenous Vgat 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

Zygoty genotype

- + Homozygous

Research use

- + Optogenetics
- + Expression/knockout of floxed genes

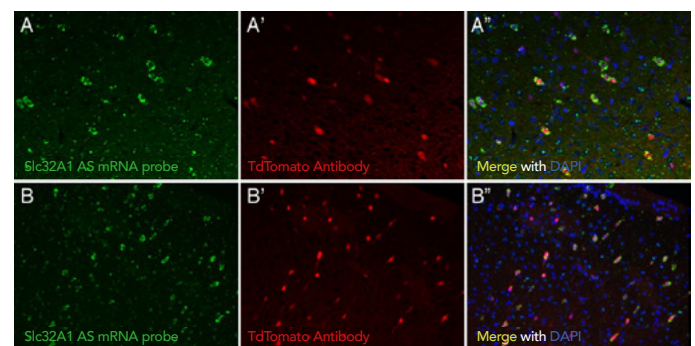
Origin

The Vgat-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 solute carrier family 32 member 1 (Vgat) promoter enabling specific expression in Vgat positive GABAergic neurons. This model possesses a targeted insertion of (IRES)-cre immediately after the translational stop in the open reading frame of the Vgat gene. The Vgat-Cre rat is useful for applications requiring tissue specific expression, including optogenetics and breeding with transgenic floxed lines.

Figure 1. A combination of Slc32A1 (Vgat) in situ hybridization and Tdtomato antibody staining confirms that the Cre recombinase is expressed in the Slc32A1 (Vgat) positive neurons in the brain.



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