



Letter to the editor announcing the availability of RCS and transgenic rats with P23H and S334ter rhodopsin mutations with inherited retinal degenerations



We wish to announce the availability of Royal College of Surgeons (RCS) inbred and congenic strains of rats, as well as 3 lines of P23H rhodopsin transgenic rats and 5 lines of S334ter rhodopsin transgenic rats to vision scientists. These animals have been available from one of us (MML) for the past 2-4 decades, and they have now been successfully transferred to the Rat Resource and Research Center (RRRC) at the

University of Missouri in Columbia, Missouri where they are maintained either live or cryopreserved.

due to a transport defect, have recently been reviewed (LaVail et al., 2018; *Exp. Eye Res.* 167, 56–90).

The rats can be obtained by contacting the RRRC at RRRC@missouri.edu or calling +1888 673-3444; web site: <http://www.rrrc.us/>.

The specific lines of rats are the following, including their RRRC ID numbers and different rates of photoreceptor degeneration:

RRRC ID	Name	Abbreviation	Description/Rate of Degeneration
314	RCS/LavRrrc	RCS	RCS inbred (pink-eyed); Fast RD
315	RCS-p ⁺ /LavRrrc	RCS-p ⁺	Pigmented RCS; Moderate RD
317	RCS-rdy ⁺ /LavRrrc	RCS-rdy ⁺	Wild-type congenic (pink-eyed)
639	SD-Tg (P23H)1Lav	P23H-1	Moderate RD
641	SD-Tg (P23H)3Lav	P23H-3	Slow RD
640	SD-Tg (P23H)2Lav	P23H-2	Very Slow RD
642	SD-Tg (S334ter)7Lav	S334ter-7	Extremely Fast RD
643	SD-Tg (S334ter)3Lav	S334ter-3	Very Fast RD
644	SD-Tg (S334ter)5Lav	S334ter-5	Fast RD
645	SD-Tg (S334ter)4Lav	S334ter-4	Moderate RD
646	SD-Tg (S334ter)9Lav	S334ter-9	Very Slow RD

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These animals have been widely used as experimental models of retinal degeneration where eye size greater than that of a mouse is needed. The RCS rats have a defect in retinal pigment epithelial (RPE) cell phagocytosis of photoreceptor outer segments (Bok and Hall, 1971; *J. Cell Biol.* 49, 664–682) due to a deletion in the *Mertk* gene (D'Cruz et al., 2000; *Hum. Mol. Genet.* 9, 645–651) and the intriguing fact that dark rearing (Dowling and Sidman, 1962; *J. Cell Biol.* 14, 73–109) or eye pigmentation (LaVail and Battelle, 1975; *Exp. Eye Res.* 21, 167–192) slows the rate of photoreceptor degeneration and loss. RCS rats have played a major role in many areas of vision science. The 3 lines of P23H rhodopsin transgenic rats that have a folding defect in the visual pigment molecule, and the 5 lines of S334ter rats that produce a truncated rhodopsin molecule that leads to photoreceptor degeneration

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.exer.2018.10.003>.

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