

What strain of mice should I breed to my chimeras?

If you want to study your mice on an inbred background, you should cross your chimeras to mice of the same strain as that of the ES cells. However, although 129-strain mice make the most robust ES cells, most mouse studies are not done on a 129-strain background due to the relatively poor fecundity of 129 mice. Thus, 129SV-strain mice are often backcrossed onto an inbred strain like C57BL/6.

If you choose to breed your brown on white chimeras (129 strain of ES cells) to C57BL/6 strain mice, you can use the C57BL/6–albino strain of mice or use C57BL/6 black mice. In either case, you can score for agouti offspring. These agouti G1 mice are the ones you wish to tail biopsy (and ~50% of these mice will have the targeted allele of interest).

If you choose to breed your black on white chimeras (C57BL/6 strain of ES cells) to C57BL/6 strain mice, you can use the C57BL/6–albino strain of mice and score for black offspring in the G1 generation (and tail cut only these pups), or breed your chimeras to C57BL/6 black mice and tail cut everything in the G1 generation.