



## Genetic monitoring of laboratory rats as supplied by The Chinese University of Hong Kong's Laboratory Animal Services Centre – June, 2015

Laboratory rats representing two inbred strains were provided for assessments of their genetic authenticity using the molecular genetic technique of allozyme electrophoresis (see Adams *et al.* (1990a) for a detailed description of the technique). A set of standard genetic markers known to display allelic variation amongst inbred and outbred strains was screened for the four animals supplied. The results of these genetic analyses are shown in Table 1.

**Table 1. Allelic profiles at 15 genetic markers for the laboratory rats provided.** Although not formally described, the marker AHD-K exhibits genetically determined variation, involving two co-dominant allozymes, s (“slow” mobility) and f (“fast” mobility). Reference strain profiles for the SHR and WKY inbred strains are shown in italics. Nomenclature for allelic profiles according to Adams *et al.* (1990b).

Strain	<i>Acon-1</i>	<i>Ahd-2</i>	<i>Ahd-C</i>	<i>Akp-1</i>	<i>Alp-1</i>	<i>Br-1</i>	<i>Es-2</i>	<i>Es-4</i>	<i>Es-10</i>	<i>Fh</i>	<i>Hbb</i>	<i>Pep-3</i>	<i>Pgd</i>	<i>Pk</i>	<i>AHD-K</i>
<i>WKY reference</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>a</i>	<i>d</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>a</i>	<i>s</i>
WKY animal #R1	b	b	b	b	b	a	d	b	b	b	a	b	c	a	s
WKY animal #R2	b	b	b	b	b	a	d	b	b	b	a	b	c	a	s
<i>SHR reference</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>a</i>	<i>b</i>	<i>a</i>	<i>s</i>
SHR animal #R3	b	b	b	a	a	b	a	a	a	b	a	a	b	a	s
SHR animal #R4	b	b	b	a	a	b	a	a	a	b	a	a	b	a	s

### Comments and conclusions

1. There is no evidence of genetic variability within either of these two inbred strains. All individuals tested were homozygous for those markers which display co-dominant alleles (all markers except *Akp-1*, where *Akp-1<sup>a</sup>* is dominant to *Akp-1<sup>b</sup>*).
2. There is no evidence of genetic contamination in either strain. The strain profiles obtained are identical to those displayed on previous occasions (last screened in December 2013, report M455-R) and consistent with the published literature.

### Contact details

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## References

Adams M, van Zutphen B, den Bieman M, and Reetz IC (1990a). "Biochemical techniques" pp. 115-128 in *Genetic Monitoring of Inbred Strains of Rats*. Hedrich HJ (ed.). Gustav Fisher Verlag, Stuttgart.

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