



## Genetic monitoring of laboratory mice as supplied by The Chinese University of Hong Kong's Laboratory Animal Services Centre – December, 2013

Laboratory mice representing seven inbred strains were provided for assessments of their genetic authenticity using the molecular genetic technique of allozyme electrophoresis (see Adams *et al.* (1990) 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 14 animals supplied. The results of these genetic analyses are shown in Table 1.

**Table 1. Allelic profiles at 15 genetic markers for the laboratory mice provided.** Although not formally described, the marker NDPK exhibits genetically-determined variation, involving two co-dominant allozymes, s (“slow” mobility) and f (“fast” mobility). Nomenclature for allelic profiles according to Mouse Newsletter and Staats (1980). All strains were represented by two individuals.

Strain	<i>Ahd-1</i>	<i>Akp-1</i>	<i>Es-1</i>	<i>Es-3</i>	<i>Got-2</i>	<i>Gpd-1</i>	<i>Gpi-1</i>	<i>Gr-1</i>	<i>Hbb</i>	<i>Idh-1</i>	<i>Itp-1</i>	<i>Mod-1</i>	<i>Pep-3</i>	<i>Pgm-1</i>	NDPK
BALB/c	b	b	b	a	b	b	a	a	d	a	a	a	a	a	s
C57BL/6	a	a	a	a	b	a	b	a	s	a	b	b	a	a	s
CFTR	a	a	a	a	b	a	b	a	s	a	b	b	a	a	s
db+/+db	b	a	a	a	b	a	b	a	s	b	b	b	a	a	s
SAMP8	b	b	b	c	a	b	a	a	d	a	b	b	b	a	s
SAMR1	b	b	b	c	b	b	a	a	d	a	b	a	b	a	s
SCID (NOD)	a	b	b	c	b	b	a	a	s	a	b	b	b	a	s

### Comments and conclusions

1. The CFTR strain has not previously been supplied for genetic monitoring by the Chinese University of Hong Kong. Both CFTR animals displayed the allelic profile expected for the C57BL group of sub-strains at all 15 genetic markers.
2. The SCID (NOD) strain has not previously been supplied for genetic monitoring by the Chinese University of Hong Kong. Both SCID (NOD) animals displayed the allelic profile expected for the NOD group of sub-strains at all 15 genetic markers.

3. The two db<sup>+/+</sup>db mice displayed the same allelic profile as that obtained for the C57BLKS/J m<sup>+/+</sup>Lepr<sup><db></sup> strain, last supplied for genetic monitoring in December, 2012 (report M442).
4. There is no evidence of genetic variability within any of these seven strains. All animals were homozygous at those markers which display co-dominant alleles (all markers except *Es-3*, where *Es-3<sup>c</sup>* is dominant to *Es-3<sup>a</sup>*).
5. There is no evidence of genetic contamination in any strain. The allelic profiles of the five previously-supplied strains are identical to those found in previous screens and/or consistent with the published literature, while the allelic profile of the CFTR and SCID (NOD) strains are consistent with these strains being congenic derivatives of standard parental strains (C57BL and NOD respectively).

### Contact details

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### References

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

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