Explanatory Notes: Data on the Composition of Four Balanced and Four Unbalanced Series of E12.5 Fetal Mouse Chimaeras

Relevant Publications:

1. West, J.D., Flockhart, J.H., 1994. Genotypically unbalanced diploid ↔diploid foetal mouse chimaeras: possible relevance to human confined mosaicism. Genet Res 63, 87-99. DOI: https://doi.org/10.1017/S0016672300032195

   (Minor correction: West, J.D., Flockhart, J.H., 1994. Genotypically unbalanced diploid↔diploid foetal mouse chimaeras: possible relevance to human confined mosaicism (erratum). Genet Res 63, 236.)

2. West, J.D., Flockhart, J.H., Kissenpfennig, A., 1995. A maternal genetic effect on the composition of mouse aggregation chimaeras. Genet Res 65, 29-40. DOI: https://doi.org/10.1017/S0016672300032985

3. Tang, P.-C. & West, J.D., 2001. Size regulation does not cause the composition of mouse chimaeras to become unbalanced. Int. J. Dev. Biol. 45, 583-590.

4. MacKay, G.E., Keighren, M.A., Wilson, L., Pratt, T., Flockhart, J.H., Mason, J.O., Price, D.J., West, J.D., 2005. Evaluation of the mouse *TgTP6.3* tauGFP transgene as a lineage marker in chimeras. J. Anat. 206, 79-92. DOI: 10.1111/j.0021-8782.2005.00370.x

Nature of Data: This is numerical data used to compare the composition of different series of fetal mouse chimaeras. Eight series of chimaeras were created as matched pairs in four studies and the composition of each chimaeric conceptus was evaluated by electrophoresis of glucose phosphate isomerase (GPI) markers. In each study, one series of chimaeras was more unbalanced than the other. These data show that BALB/c embryos tend to contribute poorly to mouse chimaeras [references 1, 3, 4 and spreadsheets 1, 3, 4] and this appears to be mediated, in part, by a maternal effect [reference 2 and spreadsheet 2]. The strain combination for each of the eight series of chimaeras is shown on the next page.

Excel Workbook (with 4 spreadsheets): Data_from_8_series_of_fetal_mouse_chimaeras.xlsx

Spreadsheet 1: Chimaera Series XM and XR. (From West & Flockhart, 1994). This shows the composition (% GPI1A) of E12.5 fetal chimaeras and their extraembryonic tissues, subjective estimates of the % albino in the fetal eyes and various physical characteristics (conceptus weight, fetal weight, placental weight, crown-rump length, and hind limb morphological score for evaluating developmental stage).

Spreadsheet 2: Chimaera Series XP and XN. (From West et al 1995). This shows composition and physical characteristics (as listed above for spreadsheet 1) for two series of chimaeras.

Spreadsheet 3: Chimaera Series PCT-V and PCT-VI. (From Tang & West 2001). This shows composition and physical characteristics (as listed above for spreadsheet 1) for two of the control series of chimaeras reported in the publication shown.

Spreadsheet 4: Chimaera Series GMA and GMB. (From MacKay et al 2005). This shows the composition (% GPI1A) of E12.5 fetal chimaeras and their extraembryonic tissues for two series of chimaeras reported in the publication shown.

Chimaera combinations and strains of mice

Strain or stock name or description	Abbreviated strain or stock name	*Gpi1* genotype	Chimaera series
Chimaera combinations			
(BALB/c × BALB/c)↔(C57BL × CBA)F2	BALB/c↔BF2***	*a/a↔b/b*	XR
(BC × BALB/c)F2↔(C57BL × CBA)F2	AF2↔BF2	*a/a↔b/b*	XM
[BALB/c × (BC × BALB/c)F1]↔(C57BL × CBA)F2	(BALB/c × AF1)↔BF2	*a/a↔b/b*	XN
[(BC x BALB/c)F1 x BALB/c]↔(C57BL × CBA)F2	(AF1 × BALB/c)↔BF2	*a/a↔b/b*	XP
(BALB/c × BALB/c)↔[(C57BL × CBA)F1 × TGB]	BALB/c↔(BF1 × TGB)	*a/a↔b/b*	PCT-V
(BALB/c × A/J)F2↔[(C57BL × CBA)F1 × TGB]	AAF2↔(BF1 × TGB)	*a/a↔b/b*	PCT-VI
(BALB/c × BALB/c)↔[(C57BL × CBA)F1 × TP6.3]	BALB/c↔(BF1 × TP6.3)	*a/a↔b/b*	GMB
(BALB/c × A/J)F2↔[(C57BL × CBA)F1 × TP6.3]	AAF2↔(BF1 × TP6.3)	*a/a↔b/b*	GMA
Strains of mice			
BALB/c/Eumm and BALB/c/OlaHsd	BALB/c	*a/a*	-
A/J	A	*a/a*	-
CBA/Ca	CBA	*b/b*	-
C57BL/OlaHsd*	C57BL	*b/b*	-
C57BL/Ola.AKR-*Gpi1*^{a},*Tyr*^{c}/Ws	BC	*a/a*	-
(BC × BALB/c)F1 hybrid**	AF1	*a/a*	-
(BALB/c × A/J)F1 hybrid	AAF1	*a/a*	-
(C57BL × CBA/Ca)F1 hybrid	BF1	*b/b*	-
Stock carrying *TgN(Hbb-b1)83Clo* marker transgene	TGB	*b/b*	-
Stock carrying *TgTP6.3* tauGFP marker transgene	TP6.3	*b/b*	-
(C57BL-*Gpi1*^{c},*Tyr*^{c} × BALB/c-*Gpi1*^{c},*Tyr*^{c})F1 hybrid	CF1	*c/c*	Recipient female for chimaera production

*The C57BL/OlaHsd strain is also known as C57BL/6OlaHsd but differs from C57BL/6JOlaHsd. It was derived from the British C57BL/Gn line and is probably not completely identical with C57BL/6 so is abbreviated to C57BL rather than C57BL/6.
** The female strain is shown first for all F1 hybrids.
*** F2 embryos are produced by crossing two F1 mice – e.g. BF2 = BF1 × BF1.