ANIMAL PASSPORTS: AN EXAMPLE OF DOCUMENTING ANIMAL INFORMATION[1]

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An effective documentation system should be in place to maintain information on the identity and welfare of the various lines being used, both to provide proper care of the animals and to ensure their use contributes to high quality science. Therefore, the documentation of information on genetically engineered animal lines should be aimed at:

- Determining the welfare of the animals in order to mitigate any pain and distress as early as possible
- Ensuring effective mitigation strategies are developed
- Communicating information on welfare concerns and mitigation strategies to those caring for the animals, for the benefit of the animals and the research and to other users of the animal line so that the animals can be properly cared for without delay

The documentation system should be intuitive to use and quick and easy to complete (GA Passport Working Group, 2010). The GA Passport (GA Passport Working Group, 2010), along with the Mouse Passport (Wells et al., 2006), provide examples of how relevant animal information could be documented, and may be useful to those needing to develop or modify their documentation practices.

GA passports: the key to consistent animal care (GA Passport Working Group, 2010) notes the benefits of documenting information on genetically engineered animals as follows:

1. Improving the dissemination of information within the scientific and animal care community (including refinements relating to housing, husbandry, enrichment and current good practice procedures/protocols)
2. Reducing the need to duplicate, or replicate research, by ensuring that details of all known screening and phenotypic data are readily accessible

[1] This best practices document was developed by a CCAC-facilitated committee involved in the development of guidelines for genetically engineered animals.

3. Providing a comprehensive record that can be kept with archived embryos and gametes, facilitating the cryopreservation of GA [genetically altered] animals, and contributing to a reduction in the number of live animals that are transported
4. Reducing the incidence of adverse events such as welfare problems, breeding failure, or disease outbreaks in immunocompromised animals, by ensuring that any information relating to phenotypic abnormalities or observable traits and their remedial actions remains with each animal throughout their lifetime

The GA Passport working Group (2010) also list the following information to be documented (descriptions of each of these bullets are provided in the document):

- Name of GA line
- General information
- Phenotypic abnormalities and observable traits with welfare implications
- Welfare implications
- Remedial actions
- Breeding
- Method of supply
- Origin
- Background
- Contact details

Where appropriate, the following supplementary information should also be recorded with the GA passport.

- References/websites
- Additional contact details
- Extra scientific information
- List of phenotypic screening undertaken to date

A section should also be included to indicate if the animals have been obtained under a material transfer agreement (MTA) and the restrictions on the use of those animals (e.g., whether it is permissible to cross the line or share the line with another investigator).

The following Animal Passport is an adaptation of the Mouse Passport (Wells et al., 2006) that could be modified by an institution to suit its needs.

ANIMAL PASSPORT		
General information		
1.	**Exact nomenclature**	
	Common name	
2.	**Background strain**	
3.	**Number of backcross generations (if applicable)**	
4.	**Details of modification** Include: type of modification (if microinjection, include copy number where known), promoter, gene affected, inheritance pattern, mutation type and strain category	
5.	**References and websites** (where applicable)	
6.	**Contact name** (at exporting facility)	
7.	**Address**	
8.	**Email**	
9.	**Where did the strain originate?**	
10.	**Genotyping method** (attach protocol; send control DNA if possible) Genotype of animals (hetero, homo, hemi)	
11.	**Immune status**	
12	**Humane endpoints**	
Summary of husbandry and welfare issues		
13.	**General appearance** (include photograph if appropriate)	
	General appearance	
	Any physical/morphological abnormalities/irregularities?	
	Is any remedial action necessary?	
14.	**Behavioural traits** (e.g., aggression, tremor, over-grooming)	
	Is any remedial action necessary?	
15.	**Other abnormalities** (include post mortem findings)	

16.	**Welfare assessment** Was a structured welfare assessment carried out for the period that adults are normally maintained? If yes how long was this?	
17.	**Husbandry recommendations**	
	Diet	
	Housing system (e.g. IVCs)	
	Environmental enrichments	
18.	**Current breeding strategy**	
	Average litter/brood size	
	Mortality rate during major life stages (e.g., pre & post weaning, yolk sac fry, fingerling, juvenile, smolt, adult)	
	Breeding life-span	
19.	**Growth rate** (attach data if available)	
20.	**Phenotypic tests** Have specific phenotypic tests been performed? (please attach results)	
Passport last updated:_____ (name and date)		

References

RSPCA (2011) GA passports – the key to consistent animal care. GA Passport Working Group, RSPCA.

Wells D.J., Playle L.C., Enser W.E.J., Flecknell P.A., Gardiner M.A., Holland J., Howard B.R., Hubrecht R., Humphreys K.R., Jackson I.J., Lane N., Maconochie M., Mason G., Morton D.B., Raymond R., Robinson V., Smith J.A. and Watt N. (2006) Assessing the welfare of genetically altered mice. *Laboratory Animals* 40(2):111-114.