MGP Select

The aim of our phenotyping programme was to perform a comprehensive phenotyping workflow to generate data covering most body systems, physiology and behaviour. This was set-up based on previous Sanger and EUMODIC programmes (see pipelines 1, 2 & Mouse GP) to carry out a comprehensive analysis and a screen of mouse mutant lines, respectively.

This pipeline was shaped around the older pipelines devoted to skeletal, cardiovascular, neurobehavioural and sensory systems as well as morphology, metabolism, haematology, biochemistry and baseline immune responses. The analysis began at 9 weeks of age and was completed by 16 weeks. Its design was based on the use of cohorts of mice, totalling seven mutants of each sex, to detect differences in physiology or disease, recognising that sex may have a considerable impact upon disease prevalence. It was also recommended that control mice be analysed through the phenotyping pipeline at the same time as mutants. Usually C57BL/6N mice have been used. Mice should be born within a time frame of 7 days. The phenotyping assays that have been chosen for the workflow are limited, but robust, providing a relatively broad-based first pass phenotype assessment, both high-throughput and cost-effective.

Unlike previous pipelines, this one was modified partway through, slimming down the number of assays performed at the indicated dates.

MGP Select

Procedure	**Age (weeks)**	**Assay end date**
Weights	4	Continued.
Grip strength	9	Ended summer of 2016.
NaMPA	9	Continued.
Indirect calorimetry	12	Ended summer of 2016.
IPGTT	13	Continued.
ABR	14	Ended summer of 2016.
DEXA	14	Continued.
X-ray	14	Ended summer of 2016.
Slit lamp	15	Ended summer of 2016.
Ophthalmoscope	15	Ended summer of 2016.
Haematology	16	Continued.
Unfasted clinical chemistry	16	Continued.
Flow cytometry PBL analysis	16	Continued.
Micronuclei	16	August 2016 – August 2018.
Full necropsy	16	Ended summer of 2018.