

Sanger Mouse Genetics Project (MGP) Adult Phenotyping Pipelines

Age (weeks)	Pipeline 1	Pipeline 2	MGP Brain Analysis	Mouse GP	MGP Select	MGP Select
	<i>Metabolic, Cardiovascular and Skeletal High fat diet</i>	<i>Sensory, Behaviour and Bloods Breeders diet</i>	<i>Brain collaborations Breeders diet</i>	<i>Combined pipeline High fat diet</i>	<i>Selected informative tests Breeders diet</i>	<i>Slimline pipeline Breeders diet</i>
4				Hair Dysmorphology		
5						
6			Perfusion fix	Hair Follicle Cycling		
7						
8						
9	Dysmorphology	Open Field, Modified SHIRPA (+ hair analysis) and Grip Strength		Open Field, Modified SHIRPA and Grip Strength	Grip Strength and NaMPA	NaMPA
10		Rotarod		Dysmorphology and Hot Plate		
11	Non-invasive blood pressure	PrePulse Inhibition				
12	Indirect Calorimetry (7M)	Hot Plate		Indirect Calorimetry (7M)	Indirect Calorimetry (7M)	
13	ip Glucose Tolerance Test	Auditory Brainstem Response (n=4), Slit Lamp & Ophthalmoscope		ip Glucose Tolerance Test	ip Glucose Tolerance Test	ip Glucose Tolerance Test
14	Body Composition (DEXA) and X-ray Imaging & Core Temperature	Terminal bleed (fed) & necropsy		Auditory Brainstem Response (n=4), Body Composition (DEXA) & X-ray Imaging	Auditory Brainstem Response (n=4), Body Composition (DEXA) & X-ray Imaging	Body Composition (DEXA)
15	Terminal Bleeds (≤16h fast)			Core Temperature (naïve and post stress), Slit Lamp & Ophthalmoscope	Slit Lamp & Ophthalmoscope	
16				Terminal bleed & necropsy	Terminal bleed & necropsy	Terminal bleed & necropsy

Ex vivo - tissues						
	Heart weights			Heart weights		
	Heart histology			Heart histology (3M+3F)		
	Bone Pilot (>2F)	Bone Pilot (2F)		Bone Pilot (2F)	Bone Pilot (2F) & OBCD Bones (6F)	OBCD Bones (6F)
		Full necropsy (2M+2F)		Full necropsy (2M+2F)	Full necropsy (2M+2F)	Full necropsy (2M+2F)
	Skin histopathology (1F)	Skin histopathology (1F)		Skin histopathology (1F)	Skin histopathology (1F)	
		Tail epidermis wholemount imaging (2F)		Tail epidermis wholemount imaging (2F)	Tail epidermis wholemount imaging (2F)	
		Eye histopathology (3M)		Eye histopathology (3M)	Eye histopathology (3M)	
		Brain histopathology (3M)	Brain histopathology (3M)	Brain histopathology (3M)	Brain histopathology (3M)	Brain histopathology (3M)
				OBCD Joints (7M)	OBCD Joints (7M)	
				3i spleen immunophenotyping by flow (3M+3F)	3i spleen immunophenotyping by flow (3M+3F)	
				3i bone marrow immunophenotyping by flow (3M+3F)	3i bone marrow immunophenotyping by flow (3M+3F)	
				3i lymph node immunophenotyping by flow (3M+3F)	3i lymph node immunophenotyping by flow (3M+3F)	
				3i spleen CTL assay (2M+2F)	3i spleen CTL assay (2M+2F)	
				3i Ear epidermal sheet analysis (2M+2F)	3i Ear epidermal sheet analysis (2M+2F)	

Ex vivo - blood						
	Metabolic clinical chemistry	Full clinical chemistry		Full clinical chemistry	Full clinical chemistry	Full clinical chemistry
		Haematology		Haematology	Haematology	Haematology
		Peripheral blood leukocyte analysis (by flow cytometry)		Peripheral blood leukocyte analysis (by flow cytometry)	Peripheral blood leukocyte analysis (by flow cytometry)	Peripheral blood leukocyte analysis (by flow cytometry)
		Immunoglobulin analysis		Immunoglobulin analysis		
		Micronuclei analysis (7M)		Micronuclei analysis (7M)	Micronuclei analysis (7M)	Micronuclei analysis
				3i Anti-nuclear antibody plasma assay (3M+3F)	3i Anti-nuclear antibody plasma assay (3M+3F)	3i Anti-nuclear antibody plasma assay (3M+3F)

Body weights were monitored regularly throughout all pipelines.

Colour key	
	External collaborator
	Wellcome Trust Strategic Award collaborator
	Internal collaborator

Sanger Mouse Genetics Project (MGP) Developmental Phenotyping Pipelines

