

Table S7. Key to Individual Variables (left to right), Related to Figure 5E

<u>Index</u>	<u>Variable</u>	<u>Index</u>	<u>Variable</u>
1	Homozygous Viability at P14	68	Ventral coat
2	Fertility	69	Vibrissae
3	ABR Threshold	70	Vibrissae Absent
	Body Composition (DEXA)	71	Vibrissae Curly
4	Body Weight	72	Vibrissae Disorientated
5	Bone Mineral Content	73	Vibrissae Long
6	Bone Mineral Density	74	Vibrissae Short
7	Fat Mass	75	Whiskers
8	Fat Percentage Estimate	76	Erythrocyte micronuclei
9	Lean Mass		Eye Morphology
10	Nose to Tailbase Length	77	Blood Presence
	Citrobacter Challenge	78	Cornea
11	Bacterial Shedding	79	Cornea Opacity
12	Ceacal Contents	80	Cornea Vascularization
13	Ceacal Patch	81	Eyelid Closure
14	Ceacum	82	Eyes Bulging
15	Colon	83	Iris Pigment
16	Colon Weight	84	Left Eye Blood Vessels
17	Liver	85	Left Eye Blood Vessels Pattern
18	Spleen	86	Left Eye Blood Vessels Structure
	Dysmorphology	87	Left Optic Disc
19	Anagen Phase	88	Left Retina
20	Coat Colouration	89	Left Retina Pigmentation
21	Coat Intact	90	Left Retina Structure
22	Coat Texture	91	Left eye Bergmeister's Papilla
23	Dorsal Coat	92	Lens
24	Dorsal Coat Coarse	93	Lens Opacity (non suture or snowflake)
25	Dorsal Coat Fine	94	Pupil
26	Dorsal Coat Long	95	Pupil Dilation
27	Dorsal Coat Rough	96	Pupil Light Response
28	Dorsal Coat Short	97	Pupil Position
29	Dorsal Coat Skin Visible	98	Pupil Shape
30	Dorsal Coat Sparse	99	Right Eye Blood Vessels
31	Ear Morphology	100	Right Eye Blood Vessels Pattern
32	Ear Size	101	Right Eye Blood Vessels Structure
33	Eye Colouration	102	Right Optic Disc
34	Eye Size	103	Right Retina
35	Eyes	104	Right Retina Pigmentation
36	Forelimb Size	105	Right Retina Structure
37	Forepaw Foot Pads	106	Right eye Bergmeister's Papilla
38	Forepaw Nails		Glucose Tolerance (ip)
39	Forepaw Size	107	Fasted Plasma Glucose
40	Genitalia	108	ip-GTT
41	Genitalia Morphology		Grip Strength
42	Genitalia Size	109	All Paws Trial 1
43	Guard Hairs	110	All Paws Trial 2
44	Hair Behind Ears	111	All Paws Trial 3
45	Hair On Tail	112	Fore Paws Trial 1
46	Head Morphology	113	Fore Paws Trial 2
47	Head Size	114	Fore Paws Trial 3
48	Hind Paw Size		Haematology
49	Hindlimb Foot Pads	115	(CBC) Haematocrit
50	Hindlimb Nails	116	(CBC) Haemoglobin
51	Hindlimb Size	117	(CBC) Mean Corpuscular Haemoglobin
52	Incisor	118	(CBC) Mean Corpuscular Haemoglobin Conc.
53	Incisor Colour	119	(CBC) Mean Corpuscular Volume
54	Mouth Morphology	120	(CBC) Mean Platelet Volume
55	Skin Condition	121	(CBC) Platelet Count
56	Skin Pigmentation	122	(CBC) Red Blood Cell Count
57	Snout Morphology	123	(CBC) Red Blood Cell Distribution Width
58	Tail Length	124	(CBC) White Blood Cell Count
59	Tail Morphology	125	Heart Weight
60	Tail Tip Hairs	126	Hot Plate Latency to respond
61	Ventral Coat Coarse		Indirect Calorimetry
62	Ventral Coat Fine	127	Cumulative Food Intake
63	Ventral Coat Long	128	Energy Expenditure
64	Ventral Coat Rough	129	Energy Expenditure/Animal
65	Ventral Coat Short	130	Respiratory Exchange Ratio
66	Ventral Coat Skin Visible	131	VCO2
67	Ventral Coat Sparse	132	VO2

<u>Index</u>	<u>Variable</u>
133	Water Intake
134	X-Activity Ambulatory
135	X-Activity Total
	Modified SHIRPA
136	Body Position
137	Contact Righting Reflex
138	Convulsions
139	Corneal Touch Reflex
140	Evidence of Biting
141	Gait (inc. Ataxia)
142	Headbobbing/Circling
143	Lacrimation
144	Limb Grasping
145	Locomotor Activity
146	Palpebral Closure
147	Pelvic Elevation
148	Pinna Touch Reflex
149	Positional Passivity
150	Startle Response
151	Tail Elevation
152	Touch Escape
153	Transfer Arousal
154	Tremor
155	Trunk Curl
156	Vocalisation
	Open Field
157	% Distance Moved in Centre - Total
158	% Time Spent in Centre - Total
159	Average Speed at Centre
160	Average Speed at Periphery
161	Latency To Enter Centre
162	Number Entries to Centre
163	Total Distance Travelled - Centre
164	Total Distance Travelled - Periphery
165	Total Distance Travelled Whole Arena
166	Total Rears
167	Total Rest Time at Periphery
168	Total Resting Time in Centre
169	Total Time at Periphery
170	Total Time in Centre
171	Whole Arena Average Speed
172	Whole Arena Resting Time
	Peripheral blood lymphocyte FACS
173	Total T cell
174	T helper
175	T cytotoxic
176	T regulatory
177	Activated T helper
178	Activated T cytotoxic
179	NK
180	NKT
181	Total B cell
182	Mature B cell
183	Monocytes
184	Granulocytes
	Plasma Chemistry
185	Alanine Aminotransferase
186	Albumin
187	Alkaline Phosphatase
188	Amylase
189	Aspartate Aminotransferase
190	Calcium
191	Chloride
192	Cholesterol
193	Creatine Kinase
194	Creatinine
195	Fructosamine
196	Glucose
197	Glycerol
198	High Density Lipoprotein

<u>Index</u>	<u>Variable</u>
199	Iron
200	Lactate Dehydrogenase
201	Low Density Lipoprotein
202	Magnesium
203	NEFAC
204	Phosphate
205	Potassium
206	Sodium
207	Total Bilirubin
208	Total Protein
209	Triglycerides
210	Urea
211	Uric Acid
	Salmonella Challenge
212	Ceecal Contents
213	Liver
214	Spleen
	Stress Induced Hyperthermia
215	Basal Body Temperature
216	Change in Temperature
217	Post Stress Temperature
218	Weight Curve
	X-ray Imaging
219	Brachydactylism
220	Clavicle
221	Digit Integrity
222	Femur
223	Fibula
224	Fusion of Processes
225	Fusion of Ribs
226	Fusion of Vertebrae
227	Humerus
228	Joints
229	Kyphosis
230	Lordosis
231	Mandible
232	Maxilla
233	Number of Caudal Vertebrae
234	Number of Cervical Vertebrae
235	Number of Digits
236	Number of Lumbar Vertebrae
237	Number of Pelvic Vertebrae
238	Number of Ribs Left
239	Number of Ribs Right
240	Number of Thoracic Vertebrae
241	Pelvis
242	Polysyndactylism
243	Processes on Vertebrae
244	Radius
245	Scapula
246	Scoliosis
247	Shape of Ribcage
248	Shape of Ribs
249	Shape of Spine
250	Shape of Vertebrae
251	Skull Shape
252	Spinous Processes
253	Syndactylism
254	Teeth
255	Tibia
256	Transitional Vertebrae
257	Transverse Processes
258	Ulna
259	Zygomatic Bone
	External collaboration
260	Eye histopathology
261	Brain histopathology
262	Skin histopathology
263	Tail epidermis wholemount