

Combined SHIRPA and Dymorphology BC

MIP_CSD_003

Purpose

SHIRPA and dymorphology were originally always separate assessments. However they have recently been combined as assessments, so that they take place at the same time.

The purpose of the assessments is to examine mice for obvious physical characteristics, behaviors and morphological abnormalities.

Descriptions include abnormal locomotion/appearance/behavior/reflex reactions.

Experimental Design

- **Minimum number of animals** : 7M + 7F
- **Age at test:** Week 26
- **Sex:** We would expect the results of this test to show sexual dimorphism

Equipment

- Viewing Jar
- SHIRPA arena
- Grid above arena
- Click Box
- Geotaxis grid
- Tube for contact righting
- Photo and/or video camera

Procedure

1. Allow the mice to acclimatise to the phenotyping room for a period of 30 minutes prior to testing.
2. Throughout the test note any vocalisation, aggression, salivation or unexpected behaviours.
3. During this test, note any unexpected dymorphological characteristics (morphological irregularities are recorded by video sequences or photos).
4. Place the mouse in a clear cylinder over a wire grid and observe for activity and tremors.
5. Transfer the mouse out of the cylinder by removing the metal plate/grid whilst positioning 30cm over an arena and record the transfer arousal.

6. Record the number of 10cm² squares the mouse moves into in the first 30 seconds in the arena (locomotor activity).
7. Allow the mouse to move freely around the arena whilst being observed for gait and tail elevation.
8. Hold the click box approximately 30cm above the arena and press the button, record the response of the mouse.
9. Pick up the mouse by the tail and observe for limp grasping and trunk curl. Trunk curl must only be recorded if the mouse curls forward without twisting its body, bending to one side is not scored as a trunk curl.
10. Place the mouse in a small transparent tube. Turn the tube quickly so the mouse is fully upside down and record if the mouse rights itself.
11. Record any vocalisation and/or aggression which were observed throughout the entire test

Notes

1. If wiping down with ethanol prior to the use of equipment, make sure no ethanol residue remains as the ethanol may affect the behaviour of the animals.
2. The validity of results obtained from behavioural phenotyping is largely dependent on methods of animal husbandry. It is important that individuals following this procedure are experienced and aware of the animal's welfare, and is familiar with the animal being tested, in order to reduce the anxiety levels of the animal prior to testing.
3. The majority of mouse behavioural studies are age/sex/strain dependent. It is important to keep these parameters comparable throughout a single experiment.
4. Environmental factors may contribute to the levels of anxiety within the mouse. The temperature, humidity, ventilation, noise intensity and light intensity must be maintained at levels appropriate for mice. It is essential that the mice be kept in a uniform environment before and after testing to avoid anomalous results being obtained.
5. It is recommended that all phenotyping experimentation is conducted at approximately the same time of day because physiological and biochemical parameters change throughout the day.
6. When a number of mice are tested continuously, residual odours from the equipment used in the preceding test may affect the test results. The floor and walls of the arena, ruler, and metal net should be wiped clean before introducing the next mouse. To prevent infection, the equipment should be washed with water at the completion of the day's tests. Some specific pathogen-free facilities use ultraviolet irradiation when tests are not being performed. Care needs to be taken, however, to ensure that ultraviolet irradiation does not crack any acrylate equipment covered with residual alcohol.

Parameters and Metadata

Skin texture - tail BCMIP_CSD_067_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: No data, As expected, Not as expected,

Lower teeth appearance BCMIP_CSD_070_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, No data, As expected,

Vibrissae - appearance BCMIP_CSD_024_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected, No data,

Transfer arousal BCMIP_CSD_031_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Options: Immediate movement, As expected, Extended freeze,

Forelimb nail - number BCMIP_CSD_050_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Both forelimbs - increased number, Both forelimbs - decreased number, As expected, No data, One forelimb - decreased number, One forelimb - increased number,

Tail - presence BCMIP_CSD_001_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Absent, Present,

Hindpaw - shape BCMIP_CSD_043_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One hindpaw - not as expected, Both hindpaws - not as expected, As expected,

Upper teeth appearance BCMIP_CSD_069_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, No data, Not as expected,

Mouth morphology BCMIP_CSD_074_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Tail elevation BCMIP_CSD_034_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Options: Straub / elevated tail, Dragging, No data, As expected,

Skin color - front paws BCMIP_CSD_059_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Skin color - back paws BCMIP_CSD_060_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Skin texture - whole body BCMIP_CSD_062_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Location of test BCMIP_CSD_082_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: LAF cabinet, Open bench,

Size of squares in arena BCMIP_CSD_086_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: cm²

Locomotor activity BCMIP_CSD_032_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Unit Measured: Squares crossed

Forelimb digit - size BCMIP_CSD_046_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Both forelimbs - increased size, As expected, One forelimb - decreased size, One forelimb - increased size, Both forelimbs - decreased size, One forelimb - fused, Both forelimbs - fused,

Skin texture - front paws BCMIP_CSD_065_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Experimenter ID BCMIP_CSD_081_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Hindlimbs - shape BCMIP_CSD_021_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, One hindlimb only - not as expected,
Both hindlimbs - not as expected,

Images BCMIP_CSD_085_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Head morphology BCMIP_CSD_026_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Forelimbs - position BCMIP_CSD_017_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One forelimb only - not as expected, As expected, Both forelimbs - not as expected,

Coat - hair distribution - abdomen BCMIP_CSD_013_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Genitalia - size BCMIP_CSD_072_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, No data, As expected,

Vocalization BCMIP_CSD_078_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Number of animals in cage BCMIP_CSD_083_001 | v1.2

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Hindlimbs - position BCMIP_CSD_020_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One hindlimb only - not as expected, Both hindlimbs - not as expected, As expected,

Hindlimbs - size BCMIP_CSD_022_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One hindlimb only - decreased, As expected, Both hindlimbs - decreased, One hindlimb only - increased, Both hindlimbs - increased,

Tail - thickness BCMIP_CSD_003_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Increased, As expected, No data, Decreased,

Skin texture - snout BCMIP_CSD_063_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Head bobbing BCMIP_CSD_080_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Present, Absent,

Limb grasp BCMIP_CSD_039_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Present, Absent, No data,

Forepaw - size BCMIP_CSD_040_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Both forepaws - increased, One forepaw - decreased,
One forepaw - increased, Both forepaws - decreased,

Hindlimb digit - number BCMIP_CSD_045_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One hindlimb - increased number, Both hindlimbs - decreased number,
Both hindlimbs - increased number, As expected, One hindlimb - decreased number,

Contact righting BCMIP_CSD_077_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Present, No data, Absent,

Tremor BCMIP_CSD_030_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Present, Absent,

Coat - hair distribution - back BCMIP_CSD_011_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Forelimb digit - shape BCMIP_CSD_048_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One forelimb - not as expected, As expected, Both forelimbs - not as expected,

Coat - color - head BCMIP_CSD_006_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: No data, As expected, Not as expected,

Genitalia - morphology BCMIP_CSD_073_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: No data, As expected, Not as expected,

Skin color - ear BCMIP_CSD_058_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Hindlimb nail - length BCMIP_CSD_053_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One hindlimb - decreased length, Both hindlimbs - increased length, As expected, Both hindlimbs - decreased length, No data, One hindlimb - increased length,

Skin color - whole body BCMIP_CSD_056_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Forelimb nail - length BCMIP_CSD_052_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One forelimb - decreased length, No data, Both forelimbs - increased length, As expected, One forelimb - increased length, Both forelimbs - decreased length,

Skin color - snout BCMIP_CSD_057_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Gait BCMIP_CSD_033_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Lack of fluidity in movement, Fluid movement,

Forelimb nail - shape BCMIP_CSD_054_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Both forelimbs - not as expected, No data, As expected, One forelimb - not as expected,

Tail - length BCMIP_CSD_002_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Short, As expected, Long, No data,

Coat - color - back BCMIP_CSD_005_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, No data, Not as expected,

Coat - color pattern - back BCMIP_CSD_008_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected, No data,

Comments (in English) BCMIP_CSD_087_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Forelimbs - size BCMIP_CSD_019_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Both forelimbs - increased, As expected, One forelimb only - increased, One forelimb only - decreased, Both forelimbs - decreased,

Skin texture - ear BCMIP_CSD_064_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Number of days since cage changed BCMIP_CSD_084_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Hindlimb nail - shape BCMIP_CSD_055_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: No data, As expected, Both hindlimbs - not as expected,
One hindlimb - not as expected,

Coat - hair texture / appearance - head BCMIP_CSD_015_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, No data, As expected,

Forelimbs - shape BCMIP_CSD_018_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One forelimb only - not as expected, Both forelimbs - not as expected, As expected,

Snout size BCMIP_CSD_028_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Decreased, Increased,

Hindlimb digit - shape BCMIP_CSD_049_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Both hindlimbs - not as expected, As expected, One hindlimb - not as expected,

Coat - color pattern - head BCMIP_CSD_009_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, No data, As expected,

Forepaw - shape BCMIP_CSD_042_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Both forepaws - not as expected, As expected, One forepaw - not as expected,

Unexpected behaviors BCMIP_CSD_037_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Jumping, None, Retropulsion, Other, Circling,

Coat - color pattern - abdomen BCMIP_CSD_010_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: No data, Not as expected, As expected,

Trunk curl BCMIP_CSD_038_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Absent, No data, Present,

Tail - morphology BCMIP_CSD_004_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: No data, As expected, Not as expected,

Hindpaw - size BCMIP_CSD_041_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Both hindpaws - decreased, One hindpaw - increased, As expected,
Both hindpaws - increased, One hindpaw - decreased,

Forelimb digit - number BCMIP_CSD_044_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One forelimb - increased number, Both forelimbs - decreased number,
One forelimb - decreased number, As expected, Both forelimbs - increased number,

Skin texture - back paws BCMIP_CSD_066_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Genitalia - presence BCMIP_CSD_071_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Absent,

Lower lip morphology BCMIP_CSD_076_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Skin color - tail BCMIP_CSD_061_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected, No data,

Startle response BCMIP_CSD_036_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: None, No data, Present,

Upper lip morphology BCMIP_CSD_075_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Teeth presence BCMIP_CSD_068_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, As expected,

Vibrissae - presence BCMIP_CSD_023_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Hindlimb nail - number BCMIP_CSD_051_002 | v2.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, One hindlimb - decreased number, No data,
One hindlimb - increased number, Both hindlimbs - decreased number,
Both hindlimbs - increased number,

Activity (body position) BCMIP_CSD_029_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Inactive, Increased activity, As expected,

Coat - hair distribution - head BCMIP_CSD_012_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Coat - hair texture / appearance - abdomen BCMIP_CSD_016_001

| v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected, No data,

Head size BCMIP_CSD_025_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Decreased, As expected, Increased,

Coat - color - abdomen BCMIP_CSD_007_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: Not as expected, No data, As expected,

Hindlimb digit - size BCMIP_CSD_047_001 | v1.2

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: One hindlimb - increased size, Both hindlimbs - fused, One hindlimb - fused, Both hindlimbs - increased size, One hindlimb - decreased size, As expected, Both hindlimbs - decreased size,

Coat - hair texture / appearance - back BCMIP_CSD_014_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: No data, As expected, Not as expected,

Ears BCMIP_CSD_027_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Not as expected,

Aggression BCMIP_CSD_079_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: As expected, Excessive aggression,
