\*Title: Combined modified SHIRPA and dysmorphology

\*Centre: IMPC

\*Date\_modified: 08-10-2012

\*Last\_modified\_by:

\*Version: 1

\*Procedure Id:

## \*1. Purpose:

SHIRPA and dysmorphology 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.

## \*2. Experimental Design

Minimum number: 7 of each sex

Age at test: 9 weeks

Sex: Both (sexually dymorphic)

## \*3. Equipment

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

## \*4. 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 dysmorphological 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. Approach the mouse with a hand and record response.
10. Pick up the mouse by the tail. Observe for trunk curl and limb grasping.
11. Place the mouse in a small transparent tube, turn upside down and observed for righting reflex.
12. Record any vocalisation and/or aggression which were observed throughout the entire test.

## \*5. 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.

| **Metadata** | **Example** | **Required for data upload** | **Required for data analysis** |
| --- | --- | --- | --- |
| Location of test | Open bench, LAF cabinet | YES | YES |
| Number of animals in cage | 3 | YES | YES |
| Number of days since cage changed | 10 | NO | NO |
| Experimenter ID |  | YES | NO |

## \*6. Measured Parameters – list

See file shirpa\_(mostrecentdate).xlsm

## \*7. MetaData Parameters – list

See file shirpa\_(mostrecentdate).xlsm