

PhenoFirst[®] Phenotyping Screen Protocol

In Vivo Evaluation

Primary Neurobehavioral Observation Panels (based on a modified SHIRPA panel):

1. The animal is observed in its home cage environment prior to handling or stimulation in order to observe any overt clinical signs, stereotypies, tremors, convulsions, etc.
2. The animal is transferred into a clear viewing chamber. The following parameters are documented:
 - Body position and activity
 - Presence of tremors
 - Coat appearance (i.e. piloerection)
 - Presence of whiskers
 - Presence of excessive lacrimation
 - Occurrence of urination and defecation
 - Occurrence of vocalization
3. The animal is transferred into a clear arena and the following parameters are documented:
 - Transfer arousal immediately after placement into the arena
 - Gait with respect to fluidity of movement, elevation of pelvis, and overall placement of limbs/feet
 - Position of tail at rest and during forward motion
 - Startle response to an acute 90 dB noise
 - Reaction to touch escape
 - Locomotor activity defined by the distance traveled in a 30 second period
4. The animal is restrained and picked up by the base of the tail and the following observations are completed:
 - Positional passivity
 - Tail, scruff, and supine
 - Trunk curl
 - Limb grasping and clasping
5. The animals are restrained by "scruffing," and the following observations are completed:
 - Palpebral reflex
 - Corneal reflex
 - Pinna reflex
 - Biting reflex

- Skin color
 - Vocalization
6. The animals are placed into a clear tube. Once stable, the tube is gently rolled to observe for contact righting reflex (ability to right itself).

Basic Pathology

At the time of necropsy, a gross examination is performed and body weights are measured.

A gross internal examination is performed to evaluate all major organs and all tissues for abnormalities. External gross photographs are provided of the following: left lateral recumbancy and ventral view of organs *in situ*.

The following tissues are collected: heart, lungs, liver, kidneys, spleen, brain, thymus, stomach, duodenum, pancreas, jejunum, ileum, cecum, colon, reproductive tract, urinary bladder, and any additional gross abnormalities.

H&E stained slides are examined by a board-certified veterinary pathologist.

At the time of necropsy, blood is collected for CBC (including differential and platelet count) and standard clinical chemistry, in addition, urine is collected for urinalysis via dipstick.

Basic Clinical Pathology

CBC, including differential and platelet count, is performed on whole blood collected at the time of necropsy.

Serum is also collected and processed for a standard clinical chemistry profile which includes: albumin, alkaline phosphatase, ALT, AST, total bilirubin, BUN, calcium, chloride, cholesterol, creatinine, glucose, GGT, globulin (calc), A/G ratio (calc), phosphorous, potassium, total protein, triglycerides, and sodium.

Urine is collected at the time of necropsy for urinalysis. Urinalysis is performed using a dipstick and the following is measured: glucose, bilirubin, ketones, protein, nitrites, leukocytes, pH, urobilinogen, blood and specific gravity.