Challenge Whole Body Plethysmography IC S_CHL_003

Purpose

The purpose of this procedure is to record the respiratory function of mice, with a LPS challenge, by means of Unrestrained Whole-Body Plethysmography, using a lipopolysaccharides (LPS) challenge.

Description: Spontaneous bronchospasm after LPS challenge

Experimental Design

- **Minimum number of animals :** 6M + 6F
- **Age at test:** Week 13
- **Sex:** We would expect the results of this test to show sexual dimorphism

Equipment

1. Flow chambers
2. Plethysmographs
3. Computer connected to flow chamber
4. Challenge reagents
5. Personal safety equipment (masks, gloves, etc.)

Procedure

1. Before starting, calibrate the plethysmographic chambers
2. Freshly prepare a 200 µg/mL LPS (O55:B5 serotype) solution in sterile saline (NaCl 0.9 %).
3. Inject 50 mg/kg ketamine and 3.3 mg/kg xylazine to mice in 100 µL volume by intraperitoneal injection
4. Administrate 25 µL of LPS solution (5 µg / mice)
5. Mouse are next placed in decubitus on a heated plate during 10-15 min
6. Place mice in the chambers
7. Start the experimental recording phase (6 hours)
8. Remove mice from chambers and place back in the home cages.

Parameters and Metadata

Frequency of breathing (f) ICS_CHL_001_001 | v1.0

seriesParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Unit Measured: bpm

Increments: Minimum 1

Tidal volume (TVb) ICS_CHL_002_001 | v1.0

seriesParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Unit Measured: ml

Increments: Minimum 1

Enhanced pause (Penh) ICS_CHL_003_001 | v1.0

seriesParameter

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Increments: Minimum 1

Start of challenge timestamp ICS_CHL_004_001 | v1.0

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

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End of challenge timestamp ICS_CHL_005_001 | v1.0

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

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Experimenter ID ICS_CHL_006_001 | v1.0

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

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Equipment ID ICS_CHL_007_001 | v1.0

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Options: Whole body unrestrained plethysmograph,

Equipment manufacturer ICS_CHL_008_001 | v1.0

procedureMetadata

Req. Analysis: true **Req. Upload:** true **Is Annotated:** false

Options: EMKA Technologies,

Equipment model ICS_CHL_009_001 | v1.0

procedureMetadata

Req. Analysis: true **Req. Upload:** true **Is Annotated:** false

Options: PLY3211,

Duration of challenge ICS_CHL_010_001 | v1.0

procedureMetadata

Req. Analysis: false **Req. Upload:** true **Is Annotated:** false

Unit Measured: min

Options: 360,

Date equipment last calibrated ICS_CHL_011_001 | v1.1

procedureMetadata

Req. Analysis: false **Req. Upload:** false **Is Annotated:** false

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