# Transepidermal water loss HMGULA_TEW_001

## Purpose

Indicator of the skin's barrier function. Transepidermal Water Loss is defined as the measurement of the quantity of water that passes from inside a body through the epidermal layer (skin) to the surrounding atmosphere via diffusion and evaporation processes. Measurements of TEWL are useful for identifying skin damage caused by pathological conditions such as eczema, certain chemicals, or physical insult, as rates of TEWL increase in proportion to the level of damage.

## Experimental Design

- **Minimum number of animals :** 7M +7F
- **Age at test:** Week 73
- **Sex:** We do not expect the results of this test to show sexual dimorphism.

## Procedure

1. The respective mouse is identified via the ear tag.
2. Mouse skin is analyzed in a non-invasive manner with a special Tewameter (AquaFluxAF200) that is placed on the skin. During a short time of 60 to 90 seconds, TEWL [g/(m2h)] is recorded.

## Notes

The measurement should be performed in the abdominal region until the measurement curve remains stable (max. 90 seconds).

## Parameters and Metadata

### Transepidermal water loss HMGULA_TEW_001_001 | v1.0

simpleParameter

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

## Coefficient of variation of transepidermal water loss HMGULA_TEW_002_001 | v1.0

simpleParameter

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

**Unit Measured:** %

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## Skin surface water loss HMGULA_TEW_003_001 | v1.0

simpleParameter

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

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## Flux HMGULA_TEW_004_001 | v1.0

seriesParameter

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

**Increments:** Minimum 1

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## Datetime of procedure start HMGULA_TEW_005_001 | v1.0

procedureMetadata

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

## Ambient temperature TEWL HMGULA_TEW_006_001 | v1.0

procedureMetadata

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

**Unit Measured:** C

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## Ambient relative humidity TEWL HMGULA_TEW_007_001 | v1.0

procedureMetadata

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

**Unit Measured:** %

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## Ice HMGULA_TEW_008_001 | v1.0

procedureMetadata

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

**Unit Measured:** mg

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## Tewl cap HMGULA_TEW_009_001 | v1.0

procedureMetadata

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

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## Measurement points before steady state TEWL HMGULA_TEW_010_001 | v1.0

procedureMetadata

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

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## Time per pt HMGULA_TEW_011_001 | v1.0

procedureMetadata

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

**Unit Measured:** seconds

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## Comments TEWL HMGULA_TEW_012_001 | v1.0

simpleParameter

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

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## Experimenter ID HMGULA_TEW_013_001 | v1.0

procedureMetadata

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

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## Coat condition HMGULA_TEW_014_001 | v1.0

procedureMetadata

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

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## Status HMGULA_TEW_015_001 | v1.0

procedureMetadata

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

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## Termination HMGULA_TEW_016_001 | v1.0

procedureMetadata

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

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## Serial Number HMGULA_TEW_017_001 | v1.0

procedureMetadata

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

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## FluxCal HMGULA_TEW_018_001 | v1.0

procedureMetadata

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

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## BaseCal HMGULA_TEW_019_001 | v1.0

procedureMetadata

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

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## Sensor HMGULA_TEW_020_001 | v1.0

procedureMetadata

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

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## Equipment model TEWL HMGULA_TEW_021_001 | v1.0

procedureMetadata

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

**Options:** AquaFlux AF200963, AquaFlux AF201724,

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## Equipment manufacturer TEWL HMGULA_TEW_022_001 | v1.0

procedureMetadata

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

**Options:** Delfin Technologies,

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## FD Calibration HMGULA_TEW_023_001 | v1.0

procedureMetadata

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

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## Software version HMGULA_TEW_024_001 | v1.0

procedureMetadata

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

**Options:** 7, 8,

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