Experimental design **IMPC_EXD_002**

**Purpose**

The experimental workflow capture form is an institute overview form to capture how the phenotyping procedures are implemented. The questions have been based on the requirements of the Animal Research: Reporting In Vivo Experiments guidelines (ARRIVE) (Kilkenny PLOS One 2010), and Gold Standard Publication Checklist (GSPC) reporting guidelines (Hooijmans ATLA 2010).

**Notes**

Each unique set of conditions within a specified timeframe is submitted by centres. Each centre may have multiple sets of active conditions within the same time-frame if some animals have different experimental conditions depending on e.g. pipeline.

Submission identifier is used to identify a unique submission, and the same identifier is used if a set of conditions have corrected or updated details in a new submission, while new identifiers are used to identify each separate set of conditions.

The questions are based on the Mouse Experimental Design Ontology (MEDO) developed to describe experimental implementation. This ontology can be examined at [https://bioportal.bioontology.org/ontologies/MEDO](https://bioportal.bioontology.org/ontologies/MEDO)

Some of the experimental conditions need to be specified for each procedure being performed. In these cases the parameters are series parameters where the three letter procedure identifier from the IMPReSS protocol key should be included as the increment name to identify the procedure and one of the defined options should be submitted as the value for each increment. For procedures where different conditions apply during data collection or imaging than during analysis, the stage in question should be specified after the procedure identifier e.g. "ABR collection" vs "ABR analysis".

This applies to the following parameters:

- IMPC_EXD_098_002 (Time effect strategy)
- IMPC_EXD_127_001 (Blinding)
- IMPC_EXD_128_001 (Instrumentation bias management)
- IMPC_EXD_129_001 (Operator effect control strategy)
- IMPC_EXD_130_001 (Order effect control strategy)
- IMPC_EXD_131_001 (Subject selection strategy)

**Parameters and Metadata**

**Pipeline ID(s)** IMPC_EXD_003_002 | v2.0
### Procedure Metadata

**Description:** pipeline_ids_applicable_to_housing_conditions

**Options:**
- BCM_001 + BCMIP_001 + BCMLA_001,
- HMGU_001 + HMGUIP_001 + HMGULA_001 + HMGULA_002,
- HRWL_001 + HRWLIP_001 + HRWLLA_001, ICS_001 + ICSIP_001 + ICSLA_001,
- JAX_001 + JAXIP_001 + JAXLA_001, TCP_001 + TCPIP_001 + TCPLA_001,
- IMPC_001 + RBRCIP_001 + RBRCLA_001, IMPC_001 + KMPCIP_001 + KMPCLA_001,
- CCP_001, IMPC_001,

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### Phenotyping Lifestage IMPC_EXD_132_001 | v1.0

**Description:** phenotyping_lifestage

**Options:** Embryo, In-vivo, FER / VIA, All phenotyping,
**Date effective from** IMPC_EXD_004_002 | v2.0

ProcedureMetadata

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

**Description:** date_effective_from

**Date effective until** IMPC_EXD_005_002 | v2.0

ProcedureMetadata

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

**Description:** date_effective_until

**Control design** IMPC_EXD_006_001 | v1.0

SeriesParameter

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

**Description:** control_design

**Increments:** Minimum 1

**Options:** Littermate control, Line mate control, Pooled genetic control, Production colony control,
Control phenotyping design IMPC_EXD_007_001 | v1.0

simpleParameter


Description: frequency_of_controls

Options: Parallel control with knockout, Weekly control, Biweekly control, Regular control with phenotyping run (same week), Monthly control,

Minimum number of male controls IMPC_EXD_008_001 | v1.0

simpleParameter


Description: number_male_controls

Minimum number of female controls IMPC_EXD_009_001 | v1.0

simpleParameter


Description: number_female_controls
Control animal production location  IMPC_EXD_012_002 | v1.0

Description: control_animal_source
Options: Internal, External,

Core colony source  IMPC_EXD_013_001 | v1.0

Description: core_colony_source
Options: Internally sourced, Externally sourced,

Control stock management  IMPC_EXD_014_001 | v1.0

Description: core_stock_strategy
Options: Control breeding, Externally managed control, Uncontrolled stock management,
**Time effect strategy**  IMPC_EXD_098_002 | v2.0

seriesParameter

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

**Description:** time_effects

**Increments:** Minimum 1

**Options:** Uncontrolled time effect, Controlled time effect, Randomised time effect,

**Blinding strategy**  IMPC_EXD_127_001 | v1.0

seriesParameter

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

**Description:** blinding_strategy

**Increments:** Minimum 1

**Options:** Unblinded, Blinded, Genotype free blinding, Allele free blinding,

**Instrumentation bias management**  IMPC_EXD_128_001 | v1.0

seriesParameter

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

**Description:** instrumentation_bias_management
**Operator effect control strategy** IMPC_EXD_129_001 | v1.0

**seriesParameter**

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

**Description**: operator_effect_control_strategy

**Increments**: Minimum 1

**Options**: Controlled instrumentation strategy, Active randomisation instrumentation strategy, Active randomisation and minimisation instrumentation strategy, Casual randomisation instrumentation strategy, Casual randomisation and minimisation instrumentation strategy, Balanced instrumentation strategy, Balanced and minimisation instrumentation strategy, Minimisation instrumentation strategy,

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**Order effect control strategy** IMPC_EXD_130_001 | v1.0

**seriesParameter**

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

**Description**: order_effect_control_strategy

**Increments**: Minimum 1
Options: Alternate animal order, Cage active randomisation, Cage casual randomisation, Casual randomisation within a cage.

Subject selection strategy IMPC_EXD_131_001 | v1.0

seriesParameter


Description: subject_selection_strategy

Options: First subject availability strategy, Active subject selection strategy, Passive subject selection strategy,

Knockout animal production location IMPC_EXD_134_001 | v1.0

simpleParameter


Description: knockout_animal_production_location

Options: Internal, External,

Maximum number of female controls IMPC_EXD_135_001 | v1.0

simpleParameter

**Maximum number of male controls**  IMPC_EXD_136_001 | v1.0

| simpleParameter |

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

**Knockout phenotyping design**  IMPC_EXD_015_001 | v1.0

| simpleParameter |

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

Description: knockout_phenotyping_design

Options: Single batch, Single batch per sex, Single batch mixed, Multiple batches, Variable batch,