

# Adult LacZ IMPC\_ALZ\_001

## Purpose

To stain adult mutant and control tissues for bacterial beta-galactosidase (LacZ) activity in order to assess the adult organ, tissue, substructure and cell type of gene expression of IKMC alleles utilizing a LacZ reporter.

**Description:** Adult mouse tissues are scored for presence of LacZ staining which is distinct from either nonspecific staining observed in wildtype control mice, or is too faint to score as present. Intensity of staining is not required but can be reported. Anatomical terms to localize staining to the organ, structure, substructure, or cell type will use standard mouse anatomy ontology terms.

## Experimental Design

Mutants:

- **Minimum number of animals :** 1M or 1F heterozygote
- Age will depend upon the logistics of each center, but all mice will be within  $\pm 7$  days of the age stipulated in the center-specific protocols, and all mice will be  $> 50$  days of age;
- The tissues in the agreed parameter list will be stained and annotated for each mutant

Controls:

- A minimum of one control mouse will be stained and annotated for every 10 mutants
- The tissues in the agreed parameter list will be stained and annotated for each control

## Procedure

Center-specific methods will be provided and be on file and linked to the data for each mutant line.

For each mouse, for each tissue, the scoring system will be: + (specific staining), - (no staining), NS (non-specific staining), or NA (tissue not available)

*Where positive, specific, staining is found:*

A. A representative image will be taken and uploaded for each mutant line. The image will have a sizing reference bar and optional center-specific watermark embedded into the image.

B. The metadata collected for each mouse will be associated with the image.

C. Each image will have a substructure field for additional annotation provided by that center.

## Notes

Tables of results for each tissue from each HET or HOM mouse scored for: presence /absence/non-specific/tissue not-available as defined above.

Representative images for positive staining tissues.

Additional annotation to provide anatomical substructure & cell specificity.

Database of non-specific staining and presentation of images representative of non-specific staining.

**Data QC**

Quality control for each center’s processes and annotation will be established by that center’s staff and published as part of their detailed protocol.

A database of control non-specific staining will be maintained by the Data Coordination Center and updated periodically to indicate the frequency of non-specific staining found in wildtype mice by each center. Representative images of non-specific staining will be linked to the data for each mutant line.

**Parameters and Metadata**

**Lymph Node** IMPC\_ALZ\_008\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** imageOnly, ambiguous, no expression, tissue not available, expression,

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**Ileum** IMPC\_ALZ\_047\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** ambiguous, tissue not available, expression, imageOnly, no expression,

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## Thymus IMPC\_ALZ\_015\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: no expression, imageOnly, tissue not available, ambiguous, expression,

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## Parathyroid gland IMPC\_ALZ\_060\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: tissue not available, ambiguous, expression, no expression, imageOnly,

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## Colorspace IMPC\_ALZ\_094\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Experimental category IMPC\_ALZ\_095\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

**Kidney** IMPC\_ALZ\_006\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: tissue not available, no expression, imageOnly, ambiguous, expression,

**Pixels per millimeter after processing** IMPC\_ALZ\_098\_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

**Prostate gland** IMPC\_ALZ\_029\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: tissue not available, ambiguous, imageOnly, expression, no expression,

## Testis IMPC\_ALZ\_014\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: tissue not available, expression, imageOnly, no expression, ambiguous,

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## Cerebellum IMPC\_ALZ\_034\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: ambiguous, tissue not available, expression, imageOnly, no expression,

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## Illumination source manufacturer IMPC\_ALZ\_089\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Microscope equipment id IMPC\_ALZ\_080\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Tongue IMPC\_ALZ\_069\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no expression, ambiguous, tissue not available, expression, imageOnly,

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## Gonadal fat pad IMPC\_ALZ\_049\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: no expression, expression, ambiguous, tissue not available, imageOnly,

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## Ovary IMPC\_ALZ\_010\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: ambiguous, tissue not available, expression, no expression, imageOnly,

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## Mesenteric Lymph Node IMPC\_ALZ\_073\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** imageOnly, ambiguous, no expression, expression, tissue not available,

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## Harderian Gland IMPC\_ALZ\_057\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** tissue not available, expression, no expression, ambiguous, imageOnly,

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## Illumination source model IMPC\_ALZ\_090\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** false

## Large Intestine IMPC\_ALZ\_018\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** ambiguous, imageOnly, tissue not available, no expression, expression,

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**Orientation** IMPC\_ALZ\_096\_001 | v1.0

procedureMetadata

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

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**Free Ontology Annotation reason** IMPC\_ALZ\_078\_001 | v1.1

simpleParameter

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

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**Bit Depth** IMPC\_ALZ\_093\_001 | v1.0

procedureMetadata

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

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**Pixels per millimeter before processing** IMPC\_ALZ\_097\_001 | v1.0

procedureMetadata

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

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**Hindlimb** IMPC\_ALZ\_058\_001 | v1.1



simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** tissue not available, imageOnly, ambiguous, expression, no expression,

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**Eye** IMPC\_ALZ\_004\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** ambiguous, no expression, tissue not available, imageOnly, expression,

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**Olfactory Lobe** IMPC\_ALZ\_037\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** tissue not available, ambiguous, expression, imageOnly, no expression,

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**Sciatic nerve** IMPC\_ALZ\_065\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** expression, no expression, ambiguous, tissue not available, imageOnly,

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**Spleen** IMPC\_ALZ\_030\_001 | v1.0

simpleParameter

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

**Options:** imageOnly, no expression, ambiguous, tissue not available, expression,

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**White Adipose Tissue** IMPC\_ALZ\_025\_001 | v1.0

simpleParameter

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

**Options:** tissue not available, ambiguous, no expression, expression, imageOnly,

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**Brain** IMPC\_ALZ\_003\_001 | v1.0

simpleParameter

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

**Options:** no expression, ambiguous, expression, imageOnly, tissue not available,

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# Objective equipment company IMPC\_ALZ\_086\_001 | v1.0

procedureMetadata

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

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# Trachea IMPC\_ALZ\_016\_001 | v1.0

simpleParameter

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

Options: expression, no expression, ambiguous, imageOnly, tissue not available,

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# Lower Urinary Tract IMPC\_ALZ\_002\_001 | v1.0

simpleParameter

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

Options: imageOnly, ambiguous, expression, no expression, tissue not available,

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# Gall Bladder IMPC\_ALZ\_056\_001 | v1.0

simpleParameter

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

**Options:** expression, ambiguous, no expression, tissue not available, imageOnly,

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**Date Microscope last calibrated** IMPC\_ALZ\_083\_001 | v1.1

procedureMetadata

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

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**Bone** IMPC\_ALZ\_043\_001 | v1.0

simpleParameter

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

**Options:** ambiguous, expression, no expression, imageOnly, tissue not available,

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**Epididymis** IMPC\_ALZ\_102\_001 | v1.2

simpleParameter

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

**Options:** ambiguous, tissue not available, expression, imageOnly, no expression,

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**Uterus** IMPC\_ALZ\_017\_001 | v1.0

simpleParameter

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

Options: expression, no expression, ambiguous, imageOnly, tissue not available,

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**Vesicular Gland** IMPC\_ALZ\_072\_001 | v1.0

simpleParameter

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

Options: ambiguous, expression, no expression, imageOnly, tissue not available,

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**Sample preparation stain name** IMPC\_ALZ\_091\_001 | v1.1

procedureMetadata

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

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**Cranium** IMPC\_ALZ\_066\_001 | v1.1

simpleParameter

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

Options: expression, tissue not available, no expression, imageOnly, ambiguous,

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## Hippocampus IMPC\_ALZ\_035\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** imageOnly, ambiguous, expression, tissue not available, no expression,

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## Colon IMPC\_ALZ\_045\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** no expression, expression, imageOnly, tissue not available, ambiguous,

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## Heart IMPC\_ALZ\_005\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** imageOnly, expression, tissue not available, no expression, ambiguous,

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**Date of Perfusion** IMPC\_ALZ\_101\_001 | v1.2

procedureMetadata

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

**Midbrain** IMPC\_ALZ\_104\_001 | v1.0

simpleParameter

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

Options: imageOnly, ambiguous, expression, no expression, tissue not available,

**Aorta** IMPC\_ALZ\_027\_001 | v1.0

simpleParameter

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

Options: no expression, imageOnly, expression, tissue not available, ambiguous,

**Bone Marrow** IMPC\_ALZ\_050\_001 | v1.0

simpleParameter

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

Options: ambiguous, tissue not available, imageOnly, expression, no expression,

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## Penis IMPC\_ALZ\_062\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** ambiguous, no expression, imageOnly, tissue not available, expression,

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## Mesenteric adipose tissue IMPC\_ALZ\_053\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** imageOnly, expression, ambiguous, tissue not available, no expression,

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## Oral epithelium IMPC\_ALZ\_074\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** expression, imageOnly, tissue not available, ambiguous, no expression,

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**Date of Sacrifice** IMPC\_ALZ\_100\_001 | v1.1

procedureMetadata

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

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**Pituitary gland** IMPC\_ALZ\_022\_001 | v1.1

simpleParameter

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

Options: no expression, tissue not available, imageOnly, expression, ambiguous,

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**Microscope equipment model** IMPC\_ALZ\_082\_001 | v1.1

procedureMetadata

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

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**Vascular System** IMPC\_ALZ\_041\_001 | v1.0

simpleParameter

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

Options: tissue not available, no expression, expression, imageOnly, ambiguous,

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**Showcase image** IMPC\_ALZ\_099\_001 | v1.0

procedureMetadata

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

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**Microscope equipment manufacturer** IMPC\_ALZ\_081\_001 | v1.1

procedureMetadata

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

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**Skeletal Muscle** IMPC\_ALZ\_023\_001 | v1.0

simpleParameter

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

Options: tissue not available, ambiguous, imageOnly, no expression, expression,

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**Cartilage tissue** IMPC\_ALZ\_032\_001 | v1.1

simpleParameter

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

Options: expression, no expression, imageOnly, ambiguous, tissue not available,

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## Stomach IMPC\_ALZ\_013\_001 | v1.2

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** no expression, tissue not available, imageOnly, ambiguous, expression,

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## Skin IMPC\_ALZ\_012\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** ambiguous, expression, tissue not available, no expression, imageOnly,

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## Striatum IMPC\_ALZ\_040\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** ambiguous, no expression, expression, tissue not available, imageOnly,

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## Lung IMPC\_ALZ\_026\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: tissue not available, no expression, expression, ambiguous, imageOnly,

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## Blood IMPC\_ALZ\_054\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: ambiguous, tissue not available, imageOnly, no expression, expression,

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## Chest bone IMPC\_ALZ\_064\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: ambiguous, imageOnly, no expression, expression, tissue not available,

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## Peripheral Nervous System IMPC\_ALZ\_038\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

**Options:** tissue not available, imageOnly, ambiguous, no expression, expression,

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**Pancreas** IMPC\_ALZ\_028\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** imageOnly, no expression, ambiguous, expression, tissue not available,

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**LacZ Images Section** IMPC\_ALZ\_075\_001 | v1.1

seriesMediaParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** false

**Increments:** Minimum 1

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**Oviduct** IMPC\_ALZ\_011\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** imageOnly, no expression, ambiguous, tissue not available, expression,

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## Liver IMPC\_ALZ\_007\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: no expression, imageOnly, tissue not available, expression, ambiguous,

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## Free Ontology IMPC\_ALZ\_077\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

## Vagina IMPC\_ALZ\_071\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: tissue not available, no expression, expression, imageOnly, ambiguous,

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## Detector equipment model IMPC\_ALZ\_085\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Peyers Patch IMPC\_ALZ\_039\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** ambiguous, tissue not available, imageOnly, expression, no expression,

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## Trigeminal V nerve IMPC\_ALZ\_070\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** expression, ambiguous, imageOnly, no expression, tissue not available,

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## Parotid gland IMPC\_ALZ\_061\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** tissue not available, ambiguous, imageOnly, expression, no expression,

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# Objective equipment model IMPC\_ALZ\_087\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Sublingual Gland IMPC\_ALZ\_067\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: expression, tissue not available, ambiguous, no expression, imageOnly,

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## Submandibular Gland IMPC\_ALZ\_068\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: expression, ambiguous, no expression, imageOnly, tissue not available,

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## Urinary bladder IMPC\_ALZ\_042\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: ambiguous, imageOnly, tissue not available, expression, no expression,



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## Objective magnification IMPC\_ALZ\_088\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## LacZ Images Wholemount IMPC\_ALZ\_076\_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Increments: Minimum 1

---

## Sample preparation reference impc IMPC\_ALZ\_092\_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Stomach pyloric region IMPC\_ALZ\_063\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

**Options:** imageOnly, no expression, ambiguous, expression, tissue not available,

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**Quadriceps** IMPC\_ALZ\_059\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** ambiguous, expression, no expression, tissue not available, imageOnly,

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**Cecum** IMPC\_ALZ\_044\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** imageOnly, no expression, ambiguous, tissue not available, expression,

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**Duodenum** IMPC\_ALZ\_046\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** imageOnly, no expression, expression, tissue not available, ambiguous,

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## Brown adipose tissue IMPC\_ALZ\_052\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: expression, no expression, ambiguous, tissue not available, imageOnly,

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## Brainstem IMPC\_ALZ\_031\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: expression, imageOnly, ambiguous, tissue not available, no expression,

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## Thalamus IMPC\_ALZ\_105\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: tissue not available, ambiguous, expression, imageOnly, no expression,

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## Diaphragm IMPC\_ALZ\_055\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** no expression, ambiguous, tissue not available, expression, imageOnly,

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## Esophagus IMPC\_ALZ\_019\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** imageOnly, no expression, tissue not available, ambiguous, expression,

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## Mammary gland IMPC\_ALZ\_009\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** tissue not available, expression, imageOnly, no expression, ambiguous,

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## Thyroid gland IMPC\_ALZ\_021\_001 | v1.1

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** ambiguous, expression, tissue not available, no expression, imageOnly,

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## Hypothalamus IMPC\_ALZ\_036\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** tissue not available, expression, ambiguous, no expression, imageOnly,

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## Vas Deferens IMPC\_ALZ\_051\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** expression, tissue not available, imageOnly, ambiguous, no expression,

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## Cerebral Cortex IMPC\_ALZ\_033\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** no expression, tissue not available, expression, imageOnly, ambiguous,

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# Main olfactory bulb IMPC\_ALZ\_103\_001 | v1.1

simpleParameter

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

Options: imageOnly, no expression, tissue not available, expression, ambiguous,

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# Adrenal gland IMPC\_ALZ\_001\_001 | v1.2

simpleParameter

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

Options: ambiguous, imageOnly, no expression, expression, tissue not available,

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# Free text comment IMPC\_ALZ\_079\_001 | v1.1

simpleParameter

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

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# Detector equipment manufacturer IMPC\_ALZ\_084\_001 | v1.0

procedureMetadata

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

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# Small Intestine IMPC\_ALZ\_024\_001 | v1.0

simpleParameter

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

Options: ambiguous, no expression, tissue not available, expression, imageOnly,

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# Spinal cord IMPC\_ALZ\_020\_001 | v1.0

simpleParameter

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

Options: tissue not available, no expression, imageOnly, ambiguous, expression,

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# Jejunum IMPC\_ALZ\_048\_001 | v1.0

simpleParameter

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

Options: expression, no expression, tissue not available, ambiguous, imageOnly,

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