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## INSTITUT COCHIN ENTITY DMP - PIME Core Facility

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# INSTITUT COCHIN ENTITY DMP - PIME

*Plan de gestion de données créé à l'aide de DMP OPIDoR, basé sur le modèle "Science Europe: structured template for research entities" fourni par DMP OPIDoR.*

## Plan Details

<b>Plan title</b>	INSTITUT COCHIN ENTITY DMP - PIME	
<b>Deliverable</b>		
<b>Version</b>	First version	
<b>Plan purpose/scope</b>	<p>The aim of this DMP is to describe as precisely as possible the various research products produced by the services offered by the core facility. This DMP is part of a wider framework, that of making available all the DMPs of the 9 Institut Cochin core facilities (MOUSET'IC, PROTEOM'IC, PIV, PIME, METABOL'IC, CYBIO, IMAG'IC, GENOM'IC and HISTIM) as well as the DMP of the CID database dedicated to the transfer, storage, consultation and sometimes processing of most of the data produced by the Institut Cochin's core facilities.</p> <p>The purpose of this DMP entity is to provide drafting assistance for researchers wishing to draw up a DMP for their research projects and wishing to call on the expertise of our core facilities.</p>	
<b>Fields of science and technology (from OECD classification)</b>	1.6 Biological sciences	
<b>Language</b>	eng	
<b>Creation date</b>	2024-07-18	
<b>Last modification date</b>	2024-12-18	
<b>Identifier type</b>	DOI	
<b>License</b>	<b>Name</b>	Creative Commons Attribution 4.0 International
	<b>URL</b>	<a href="http://spdx.org/licenses/CC-BY-4.0.json">http://spdx.org/licenses/CC-BY-4.0.json</a>

## Structure Details

**Entity's name** Institut Cochin Core Facility - PIME  
**Acronym** PIME  
**Identifier** <https://institutcochin.fr/plateformes/pime>  
**Identifier type** URL

**Description**

La plateforme de microscopie électronique est spécialisée dans l'analyse ultrastructurale des molécules biologiques, des cellules et des tissus, depuis la recherche fondamentale à la recherche appliquée. Nos domaines d'expertise couvrent la description et la caractérisation des tissus normaux et pathologiques, et l'identification et la localisation de protéines. Nos techniques sont complémentaires de la microscopie optique traditionnelle, nous permettant un pouvoir séparateur de l'ordre du nanomètre.

Ce qui est particulièrement important en microscopie électronique, nous réalisons d'office l'aide à l'analyse, à l'interprétation et à la présentation des résultats et des images.

**Creation date** 2003-02-02

**Research outputs :**

1. Resin Block (Physical object)
2. EM Images (Image)

**Contributors**

Name	Affiliation	Roles
Guilbert Thomas - 0000-0001-5069-0730	Institut Cochin - 051sk4035	<ul style="list-style-type: none"> <li>• DMP manager</li> </ul>
Schmitt Alain - 0000-0002-8011-2277	Institut Cochin - 051sk4035	<ul style="list-style-type: none"> <li>• Contact Person (ResinBlock, Images)</li> <li>• Entity's Manager (Images, Images, ResinBlock, Images, Images, ResinBlock, Images, Images, Images, ResinBlock, Images, ResinBlock, ResinBlock, ResinBlock, ResinBlock, ResinBlock, ResinBlock)</li> <li>• Entity's manager</li> </ul>

# INSTITUT COCHIN ENTITY DMP - PIME

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## Data description and collection or re-use of existing data

### Resin Block

#### Research output description

<b>Name</b>	Resin Block
<b>Description</b>	Resin block generated from biological sample. Each sample is embedded in electron microscopy designed resins.
<b>Type</b>	Physical object
<b>Workpackage</b>	
<b>Issued Date</b>	2024-07-22
<b>Persistent identifier</b>	"project number"-"sample number"
<b>Identifier type</b>	Identifiant local
<b>May contain personal data?</b>	No
<b>May contain sensible data?</b>	No
<b>May take ethical issues into account?</b>	No

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#### Will existing data be reused?

**Justification** Yes, for futur research.

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#### How new data will be collected or produced?

<b>Name of the method</b>	Embedding
<b>Description</b>	<p>Embedding Protocol :</p> <p>Secondary fixation was performed with 1% osmium tetroxide in phosphate buffer saline for 1 hr at room temperature, then washed 3 times in H<sub>2</sub>O and further dehydrated with increasing concentrations of ethanol (70%, 90%, and 100% twice).</p> <p>After dehydration, samples were infiltrated with sequential 3:1, 1:1, and 1:3 solutions of resin (Embed 812 kit; Electron Microscopy Sciences, Hatfield, PA) and 100% ethanol for 1 h separately at room temperature.</p> <p>Finally, the samples were incubated with propylene oxide for 2mn and and placed in the embedding molds with resin. The embedding resin blocks were polymerize in an oven at 60°C for 24h.</p>
<b>Data Nature</b>	Experimental Data
<b>Equipments, technical platforms used</b>	<ul style="list-style-type: none"> <li>• PIME : <a href="https://cat.opidor.fr/index.php/PIME">https://cat.opidor.fr/index.php/PIME</a></li> </ul>

## EM Images

### Research output description

<b>Name</b>	EM Images
<b>Description</b>	<p>Acquisition of region of interest.</p> <p>Analysis of the aspects of the samples in light of the problems and research of the researchers.</p> <p>Output consist in information linked to scientific questions</p>
<b>Type</b>	Image
<b>Workpackage</b>	
<b>Keywords (free-text)</b>	
<b>Language</b>	eng
<b>Issued Date</b>	
<b>Persistent identifier</b>	"project number"-"sample number"-"Unique number"
<b>Identifier type</b>	Identifiant local
<b>May contain personal data?</b>	No
<b>May contain sensible data?</b>	No
<b>May take ethical issues into account?</b>	Yes

### Will existing data be reused?

**Justification** Data can be analyse again at the light of new scientific questions.

### How new data will be collected or produced?

<b>Name of the method</b>	EM acquisition
<b>Description</b>	Acquisition software (digital micrograph) on the electron microscope.
<b>Data Nature</b>	Experimental data
<b>Equipments, technical platforms used</b>	<ul style="list-style-type: none"><li>• PIME : <a href="https://cat.opidor.fr/index.php/PIME">https://cat.opidor.fr/index.php/PIME</a></li></ul>

## Documentation and data quality

### Resin Block

#### What metadata and documentation (for example way of organising data) will accompany the data?

<b>Description</b>	Resine Block are referenced in the ElabOne-Pime.
<b>Metadata language code</b>	fra
<b>Documentation software</b>	ElabFTW

#### What methods will be used to ensure their scientific quality?

<b>Description</b>	Visual inspection.
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### EM Images

#### What metadata and documentation (for example way of organising data) will accompany the data?

<b>Description</b>	Coding in the laboratory notebook.
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#### What methods will be used to ensure their scientific quality?

**Description**

Visual control. Usefulness for the researcher.

## Legal and ethical requirements, codes of conduct

### Resin Block

**How will other legal issues, such as intellectual property rights and ownership, be managed?  
What legislation is applicable?**

**Description**

Researchers depositing the samples assure that all legal issues are managed by accepting the rules.  
For private company, following established contract (destruction or redonner les blocs), following NDA.

**What ethical issues and codes of conduct are there, and how will they be taken into account?**

**Description**

following INSERM, CNRS and UPCité rules  
following AHP rules for human samples (anonymization, legal consent, etc)

### EM Images

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**Description**

following INSERM, CNRS and UPCité rules  
following AHP rules for human samples (anonymization, legal consent, etc)

## Data processing and analysis

## Resin Block

### How and with what resources will the data be processed / analyzed?

#### Description

Production of sample section used for the next ME experiment. Ultrathin sections (90 nm) were cut from the block surface using an ultramicrotome (Reichert Ultracut S ultramicrotome, Leica Microsystems) then stained with uranyl acetate and lead citrate (LFG, France) and observed by TEM (JEOL 1011, JEOL, Japan)) at 80 kV of acceleration voltage. Acquisitions were performed by an Orius 1000 CCD Camera (GATAN, USA) using Digital Micrograph software (GATAN, USA).

#### Related references

- Ultramicrotomy of biological objects: From the beginning to the present : [https://doi.org/10.1016/1047-8477\(90\)90074-M](https://doi.org/10.1016/1047-8477(90)90074-M)

#### Equipments, technical platforms

- PIME : <https://cat.opidor.fr/index.php/PIME>

## EM Images

### How and with what resources will the data be processed / analyzed?

#### Description

Data are visually analysed upon acquisition. In Electron microscopy, images provide information on size, shape, morphology and ultrastructure of all the elements of the biological sample, at a nanometric scale. Analysis is mostly qualitative, albeit some quantitative analysis could be performed with a sufficient sample size. In this case, the commonly used image analysis software equipped with an electron microscopy module can be used.

#### Equipments, technical platforms

- PIME : <https://cat.opidor.fr/index.php/PIME>

## Storage and backup during the research process

## Resin Block

### How will data be stored and backed up during the research?



<b>Storage needs</b>	Dedicated container in the lab.
<b>Measures taken for data security</b>	Securised software (ELAB-FTW) referencing the block (Anonymous coding).

## EM Images

### How will data be stored and backed up during the research?

<b>Storage needs</b>	Hard drives connected to the acquisition system or CID.
<b>Estimated volume of data</b>	80
<b>Unit</b>	MB
<b>Equipments, technical platforms</b>	<ul style="list-style-type: none"> <li>• CID : <a href="https://cat.opidor.fr/index.php/CID">https://cat.opidor.fr/index.php/CID</a></li> </ul>
<b>Measures taken for data security</b>	Securised software (ELAB-FTW) referencing the block (Anonymous coding).

## Data sharing and long-term preservation

### Resin Block

#### How will data be shared?

<b>Modalities of sharing</b>	Physical objects, so physical sharing.
<b>Reusability</b>	until the block is physically exhausted.
<b>Data repository/catalogs</b>	<ul style="list-style-type: none"> <li>• CID : <a href="https://cat.opidor.fr/index.php/CID">https://cat.opidor.fr/index.php/CID</a> ()</li> </ul>

#### How will data be long-term preserved? Which data?

<b>Justification</b>	Could always be useful for futur resarch. On demand or until the project is terminated.
<b>Start date</b>	
<b>End date</b>	
<b>Final dispositions</b>	

## EM Images

### How will data be shared?

<b>Modalities of sharing</b>	By file transferring or CID.
<b>Reusability</b>	Future research. We recommend the use of open science sharing for future data sharing.
<b>Data repository/catalogs</b>	<ul style="list-style-type: none"><li>• CID : <a href="https://cat.opidor.fr/index.php/CID">https://cat.opidor.fr/index.php/CID</a> ()</li></ul>

### How will data be long-term preserved? Which data?

<b>Justification</b>	On demand or until the project is terminated.
<b>Estimated volume of data</b>	80
<b>Unit</b>	MB
<b>Start date</b>	
<b>End date</b>	
<b>Final dispositions</b>	