Phenocell
Stem Cells for better Drugs

PRODUCT SHEET

Human iPSC-derived Retinal Pigment Epithelium cells — PCi-RPE

Description

Product Ref. PCi-RPE

Phenocell provides Retinal pigment epithelium cells (PCi-RPE) developed from human induced pluripotent stem cells (iPSC). PCi-RPE are cryopreserved and provided at passage 2 (p2) to allow amplification. A thawing test is performed on each batch. Viability after thawing is > 90%. A protocol for thawing and culture is available at PCi-RPE culture protocol. Shipping is on dry ice.

PCi-RPE are available in $2x10^6$ and $6x10^6$ cell/vial format.

Product Information

Product	Catalog No.	Quantity
Human iPSC-derived Retinal Pigment Epithelium cells	PCi-RPE_2M	2.10^6 cells/vial
Human iPSC-derived Retinal Pigment Epithelium cells	PCi-RPE_6M	6.10^6 cells/vial

- Each lot is tested for expression of RPE markers and for absence of mycoplasma.
- Storage conditions: Product stable at -135°C or colder. Storage in the vapor phase of a liquid nitrogen storage tank is recommended.
- Expiration: Guaranteed for up to 12 months from date of receipt if properly stored. Use cells immediately after thawing.

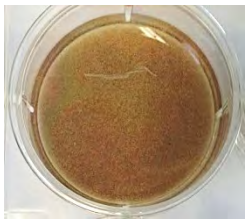
Product Use

PCi-RPE are intended for **in vitro research use only** and are not to be used for any other purpose, which includes, but is not limited to, unauthorized commercial uses, in vitro diagnostic uses, ex vivo or in vivo therapeutic uses or any type of consumption or application to humans or animals.

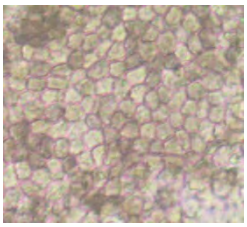
Quality testing and results

Refer to lot-specific Certificate of Analysis. PCi-RPE are derived from qualified human iPSC and have been validated on morphological criteria, high expression levels of Microphtalmia-associated Transcription Factor (*MITF*), Tight junction protein 1 (*TJP1*, ZO-1 protein) and Premelanosome protein (*PMEL17*) genes and functionality (phagocytosis). PCi-RPE display normal karyotype and tested negative for mycoplasma before freezing.

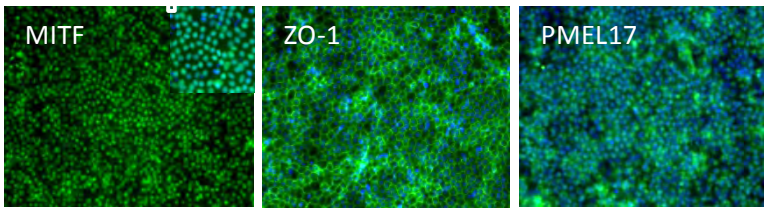
- **Morphology**



One month after plating, PCi-RPE display the characteristic polygonal morphology and conspicuous pigmentation by melanin granules.

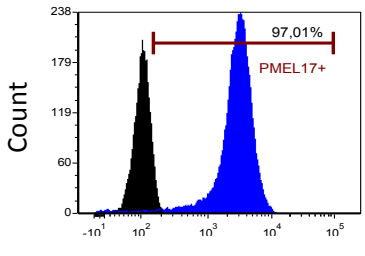


- **Immunohistochemistry for key RPE markers**



PCi-RPE strongly express the key transcription factor MITF, the tight-junction marker ZO-1 and the premelanosome marker PMEL17.

- **Purity**



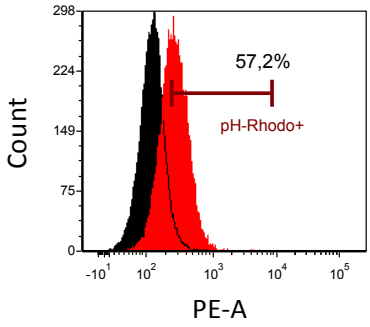
PMEL17-Alexa647

Flow cytometry analysis for PMEL17 reveals a PCi-RPE purity above 97%.

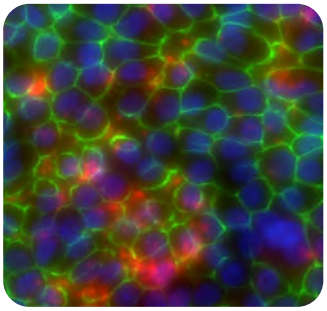
Black : isotype control
Blue : PMEL17 staining

- **Function**

In the retina, RPE cells perform numerous functions in support of rod and cone photoreceptors. Phagocytosis of photoreceptor outer segment fragments is instrumental to photoreceptor long-term viability and function. The phagocytotic potential of PCi-RPE was assessed using a pH-Rhodo bioparticle assay (ThermoFischer).
More than 50% PCi-RPE cells internalize bioparticles, which is within the range described in the literature for RPE phagocytosis (Westenskow et al., Invest Ophthalmol Vis Sci., 2012; Maruotti et al., Stem Cells Transl Med, 2013).



Black : No bioparticle control
Red : pH-Rhodo bioparticles.



PCi-RPE cells incubated with pH-Rhodo bioparticles for 12h.

Green : ZO-1
Red : pH-Rhodo
Blue : DAPI counterstaining

Routine culture and amplification

Culture PCi-RPE in DMEM/F12 with B27 (70/30) on matrigel-coated cell culture surfaces according to the PCi-RPE culture protocol sheet.

Safety precautions

Wear the appropriate personal protection equipment (PPE) and handle the frozen vials with due caution. This product should be treated as potentially infectious and only used in biological safety level 2 premises and conditions.
Do not ingest. In case of contact with eyes, rinse immediately with plenty of water for at least 15 min and seek medical advice.
Environmental measures : soak up with inert absorbent material. Clean with bleach and rinse thoroughly. Prevent further leakage or spillage if safe to do so.
Phenocell can not be held liable for any damage or losses resulting from the handling or from contact with the product as described herein.

Areas of interest

Retinal pigment epithelium cell research, retina-linked disorders research, pharmacology, toxicology, drug discovery.

Phenocell can not guarantee the biological function or any other properties associated with performance of the product in researchers' individual culture systems. Phenocell guarantees that the product will meet the specifications only when assessed immediately after thawing using the recommended Protocol.

Limited use label license

This Product is Patent Pending. See User's Notification below:

User Notification

I. Definitions;
1. PHENOCELL: Phenocell SAS
2. iPS-AJ: iPS Academia Japan, Inc.
3. User: The person or entity who purchased Product(s) from PHENOCELL or its authorized distributor.
4. Product: Cells that are differentiated from human iPS cells by PHENOCELL, and which PHENOCELL sells or transfers under the license agreement between iPS-AJ and PHENOCELL.

II. User Restrictions;

1. User may use the Product for internal research including but not limited to screening potential drug compounds for efficacy and safety, and for the provision of such services to third parties. No other right is granted to User whether expressly, by implication, by estoppel or otherwise. In particular, the purchase of the Product does not include nor carry any right or license to use, develop or otherwise exploit the Product commercially, and no rights are conveyed to User to use the Product for any other purpose.
2. User agrees to use the Product in compliance with all applicable statutes and regulations, but not to use the Product for application and use for human/animal therapeutic, diagnostic and/or prophylactic purposes including but not limited to clinical applications, cell therapy, transplantation, and/or regenerative medicine without appropriate license.
3. In case that User transfers Product to a third party, User shall convey the User Restrictions set forth herein to such a third party.

FOR RESEARCH USE ONLY. Not intended for human or animal diagnostic or therapeutic use.