Differentiation of ovarian stromal cells to steroidogenic theca interna cells

SCOPE OF THE METHOD

<table>
<thead>
<tr>
<th>The Method relates to</th>
<th>Human health</th>
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<tbody>
<tr>
<td>The Method is situated in</td>
<td>Basic Research</td>
</tr>
<tr>
<td>Type of method</td>
<td>In vitro - Ex vivo</td>
</tr>
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DESCRIPTION

Method keywords

- theca cells
- differentiation
- isolation
- Ovarian cells

Scientific area keywords

- fertility restoration
- artificial ovary
Reproduction
Human ovarian tissue

Method description
We aim to differentiate ovarian cells isolated from postmenopausal ovaries into steroidogenic theca interna cells. For this purpose, cryopreserved ovarian cortex fragments are used to isolate ovarian cells. These cells are cultured on collagen and supplemented with growth factors defined to promote differentiation into theca interna cells. After 8 days of culture, theca interna cells are obtained, characterized by steroidogenic enzymes such as CYP17A1, and by the production of steroidogenic hormones.

Lab equipment
- Tissue chopper;
- Biosafety cabinet;
- Incubator;
- Centrifuge;
- Water bath with shaker

Method status
Published in peer reviewed journal

PROS, CONS & FUTURE POTENTIAL

Advantages
In vitro differentiation and culture of theca interna cells.

Challenges
Theca cells are obtained after 8 days of culture, however, they lose their characteristics when kept in culture for a longer time period.

Modifications
Yes, the pool of cell types within ovarian cells can be reduced to only those that undergo differentiation.
REFERENCES, ASSOCIATED DOCUMENTS AND OTHER INFORMATION

References


Associated documents