Identifying and selecting highly Cytokine-Secreting Cells

THE EXISTING PROBLEM OR ISSUE
Stem cells used in regenerative medicine secrete anti-inflammatory cytokines in varying amounts. Some cellular treatments for conditions such as arthritis inject these cells into a diseased joint where the cells are supposed to reduce inflammation and promote healing. Results vary resulting in a proportion of poor responders. We need to optimise the injected cells with anti-inflammatory properties.
Current techniques use conventional cell labelling with standard fluorophores. This method proves inadequate as cytokine secretions are not abundant.

OUR SOLUTION
We have developed methodology that enables the selection of highly cytokine secreting cells through super-bright labelling. Cell selection can occur using a standard sorting flow cytometer.
Most importantly, after further culturing selected cells retain their high cytokine secretion.
This new method enables scientists to identify and expand cells with optimised properties including therapeutic properties and is also applicable to other cells such as antigen-presenting T-cells.

ADVANTAGES

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<tr>
<th>ADVANTAGES</th>
<th>BENEFITS</th>
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<tbody>
<tr>
<td>Multiplex labelling</td>
<td>Highly selective</td>
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<td>Rapid and simple</td>
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<td>Selectively capture cytokine-secreting cells</td>
<td>Cells can be used for downstream culture</td>
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<td>Standard equipment</td>
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APPLICATIONS
- Vaccine development
- Novel cellular treatments

INVENTORS
Prof Ewa Goldys, Guozhen Liu, Ayad Anwer

INTELLECTUAL PROPERTY POSITION
Australian Patent Application:
Cell selection method

WOULD YOU LIKE TO KNOW MORE?
Contact Anna Grocholsky +61(0) 437 463 317 or anna.grocholsky@mq.edu.au

research.mq.edu.au