Figure S1

A

Urine collection → OCT4, SOX2, KLF4, c-MYC → Exfoliated urinary cells → UiPSCs

D0 → D14 → D35

B

Type I

Type II

D5

D9

C

UCs

D

UiPSCs on Matrigel → EB → AP staining

iPSCs

Scale bars
Figure S2

A

NANOG

SSEA4

SOX2

TRA1-81

B

Relative Expression (log2 Ratio)

SOX2

OCT4

NANOG

C

D

Neural rosettes

Smooth muscle

Small gland

Pigmented epithelium

Cartilage

Lymph
Figure S3

A

<table>
<thead>
<tr>
<th>D11</th>
<th>Non-fried egg</th>
<th>Multiple fried eggs</th>
</tr>
</thead>
<tbody>
<tr>
<td>D14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B

<table>
<thead>
<tr>
<th>No LB</th>
<th>Multiple LBs</th>
</tr>
</thead>
</table>
Figure S4

A

LB

B

<table>
<thead>
<tr>
<th></th>
<th>UIPSCs (D0)</th>
<th>D6</th>
<th>“Fried egg” (D11)</th>
<th>Unmature LB (D14)</th>
<th>Mature LB(D25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40×</td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>100×</td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
</tr>
<tr>
<td>200×</td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
<td><img src="image" alt="Image" /></td>
</tr>
</tbody>
</table>

C

Non-treated cells | Remaining cells | Selected cells

| LB (D25) | ![Image](image) | ![Image](image) | ![Image](image) |
| 40× | ![Image](image) | ![Image](image) | ![Image](image) |
Figure S5

A

<table>
<thead>
<tr>
<th>No. of UiPSCs Colonies</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 10</td>
</tr>
<tr>
<td>~ 15</td>
</tr>
<tr>
<td>~ 50</td>
</tr>
<tr>
<td>~ 100</td>
</tr>
<tr>
<td>~ 150</td>
</tr>
</tbody>
</table>

B

![Graph showing % of UiPSCs Colonies differentiated into LBs](image)
Figure S6

<table>
<thead>
<tr>
<th>Protein</th>
<th>LBs (D25)</th>
<th>HLs</th>
</tr>
</thead>
<tbody>
<tr>
<td>αA-crystallin</td>
<td>[Image]</td>
<td></td>
</tr>
<tr>
<td>αB-crystallin</td>
<td>[Image]</td>
<td></td>
</tr>
<tr>
<td>β-crystallin</td>
<td>[Image]</td>
<td></td>
</tr>
<tr>
<td>GAPDH</td>
<td>[Image]</td>
<td></td>
</tr>
</tbody>
</table>
Figure S7

Comparison of expression levels of various proteins under different conditions:

- **D0** and **D25** conditions for:
  - CRYAA
  - CRYAB
  - CRYBB2
  - CRYGC
  - MIP
  - GAPDH

- **D0** and **D8** conditions for:
  - PAX6
  - EYA1
  - SIX1
  - GAPDH

- **D0** and **D12** conditions for:
  - PROX1
  - SOX1
  - DLX3
  - FOXE3
  - GAPDH
Figure S8

LC3B-I
LC3B-II
GAPDH

LBs  HLs  LBs
UiPSCs  ESCs