<table>
<thead>
<tr>
<th>Cell lines&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Nuclear genotypes (genetic marker)&lt;sup&gt;b&lt;/sup&gt;</th>
<th>mtDNA genotypes</th>
<th>Fusion combination</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nuclear donors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ρ&lt;sup&gt;0&lt;/sup&gt;P29</td>
<td>P29 (HAT&lt;sup&gt;a&lt;/sup&gt;, BrdU&lt;sup&gt;b&lt;/sup&gt;)</td>
<td>mtDNA less</td>
<td></td>
<td></td>
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<tr>
<td><strong>mtDNA donors</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>B82mtP29</td>
<td>B82 (HAT&lt;sup&gt;a&lt;/sup&gt;, BrdU&lt;sup&gt;b&lt;/sup&gt;)</td>
<td>Wild type</td>
<td>ρ&lt;sup&gt;0&lt;/sup&gt;B82 × enP29</td>
<td>BrdU + UP&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>B82mtA11</td>
<td>B82 (HAT&lt;sup&gt;a&lt;/sup&gt;, BrdU&lt;sup&gt;b&lt;/sup&gt;)</td>
<td>G13997A</td>
<td>ρ&lt;sup&gt;0&lt;/sup&gt;B82 × enA11</td>
<td>BrdU + UP&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>B82mtΔ</td>
<td>B82 (HAT&lt;sup&gt;a&lt;/sup&gt;, BrdU&lt;sup&gt;b&lt;/sup&gt;)</td>
<td>ΔmtDNA4696</td>
<td>ρ&lt;sup&gt;0&lt;/sup&gt;B82 × platelets</td>
<td>UP&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Trans-mitochondrial cybrids</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>P29mtP29</td>
<td>P29 (HAT&lt;sup&gt;a&lt;/sup&gt;, BrdU&lt;sup)b&lt;/sup&gt;)</td>
<td>Wild type</td>
<td>ρ&lt;sup&gt;0&lt;/sup&gt;P29 × enB82mtP29</td>
<td>HAT + UP&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>ρ&lt;sup&gt;0&lt;/sup&gt;P29 × enB82mtΔ</td>
<td>HAT + UP&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
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</table>

<sup>a</sup> As mtDNA donors, we used B82mtP29, B82mtA11, and B82mtΔ cybrids shearing the same nuclear background of B82 cells for excluding variations of nuclear-coded cytoplasmic factors in mtDNA donors. B82mtP29 cybrids carrying nuclear DNA from B82 cells and mtDNA from P29 cells were obtained by fusion of ρ<sup>0</sup>B82 cells with enucleated P29 cells and subsequent cultivation in the selection medium with BrdU and UP<sup>a</sup>. ρ<sup>0</sup>B82 cells can survive in the selection medium with BrdU due to their lacking thimidine kinase activity, and cannot survive in the selection medium without uridine and pyruvate (UP<sup>a</sup> medium) due to their lacking mtDNA. Thus, BrdU and UP<sup>a</sup> eliminate unenucleated P29 cells and unfused ρ<sup>0</sup>B82 cells, respectively, and allow exclusive growth of the B82mtP29 cybrids. B82mtΔ cybrids carrying nuclear DNA from B82 cells and ΔmtDNA4696 were obtained by fusion of ρ<sup>0</sup>B82 cells with platelets from mito-mice carrying ΔmtDNA4696 [23] in the UP<sup>a</sup> selection medium. As G13997A mtDNA donors, we used B82mtA11 cybrids obtained in our previous work [16].

<sup>b</sup> All the mtDNA donors sharing the B82 nuclear background lacking thymidine kinase activity cannot survive in the presence of a hypoxanthine/aminopterin/thymidine (HAT). On the contrary, nuclear donors ρ<sup>0</sup>P29 cells can grow in the HAT selection medium due to their possessing thimidine kinase activity, but not in UP<sup>a</sup> selection medium due to their complete respiration defects by mtDNA depletion. Thus, HAT and UP<sup>a</sup> allow exclusive growth of the P29mtP29, P29mtA11, and P29mtΔ cybrids.

<sup>c</sup> en represents enucleated.
Figure 1

A

Afl II digestion

Wild type

- 147 bp
- 114 bp

G13997A

- 33 bp

Xho I digestion

Wild type

- 16.3 kbp

∆mtDNA

- 11.6 kbp

B

I+III activity (%)

II+III activity (%)

IV activity (%)

- P29mtP29
- P29mtA11
- P29mtΔ
- ρ-0P29
Figure 2

A

P29mtP29  P29mA11  P29mΔ  p0P29

No. of cells

MitoSOX-Red

B

P29mtP29  P29mA11  P29mΔ  p0P29

MCL-1

β-Actin
Figure 3

A

![Graph showing lactate levels in different groups.]

B

![Graph showing experimental metastatic potential in different groups.]