Introduction
Bone marrow contains a population of rare progenitor cells known as mesenchymal stem cells (MSC) capable of replication as undifferentiated cells or differentiating into bone, cartilage, fat, muscle, tendon and marrow stroma. Poietics™ rat mesenchymal stem cell (rMSC) system contains normal rat mesenchymal stem cells and medium for their growth. Each system can generate rMSC cultures for experimental studies in cell differentiation, including osteogenesis and bone mineralization, adipogenesis and fat accumulation. They are excellent tools for gene delivery research, functional genomics, drug screening, high throughput screening and toxicology. Poietics™ cells and medium are quality tested and guaranteed to give optimum performance.

Cell system components (need to be purchased separately)
- One mesenchymal stem cell product (cryopreserved in passage 3) ≥750,000 cells
- One mesenchymal stem cell medium product BulletKit™, 500 ml
  Poietics™ R-MSCGM™ BulletKit™ (00192853) contains one 440 ml bottle of mesenchymal stem cell basal medium and the following growth supplements; rat MSC FBS, 50 ml; L-glutamine, 10 ml; GA-1000, 0.5 ml.
- One trypsin/EDTA solution (CC-3232) 100 ml

Performance
Recommended seeding density for subculture 7500 cells/cm²
Recommended feeding interval 2 - 3 days
Typical time from seeding to subculture readiness 5 - 6 days

Characterization of cells
Routine characterization of rMSC includes testing for surface antigens and functional testing for differentiation down specific lineage pathways. Cells test CD29⁺, CD90⁺, CD11b⁻, CD34⁻, CD45⁻ by flow cytometry. Cells are tested using in vitro assays and are found to be positive for: adipogenic lineage as indicated by oil red o and osteogenic lineage as indicated by calcium mineralization.

Quality control
All cells are performance assayed and test negative mycoplasma, bacteria, yeast and fungi. Cell viability and morphology are measured after recovery from cryopreservation. A certificate of analysis (COA) for each cell lot is shipped with each order. COAs for all other products are available upon request.

Source
Rat bone marrow withdrawn from the femur and tibia of female Fischer 344 rats.

Ordering information
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT-2505</td>
<td>rMSC rat mesenchymal stem cells</td>
<td>≥750,000 cells</td>
</tr>
<tr>
<td>00192853</td>
<td>R-MSCGM™ BulletKit™, MSCBM plus SingleQuots™ of growth supplements</td>
<td>500 ml</td>
</tr>
<tr>
<td>PT-3238</td>
<td>MSCBM, mesenchymal stem cell basal medium</td>
<td>440 ml</td>
</tr>
<tr>
<td>00192820</td>
<td>R-MSCGM™ SingleQuots™, formulates MSCBM to R-MSCGM™</td>
<td></td>
</tr>
<tr>
<td>00192854</td>
<td>Rat MSC osteogenic differentiation BulletKit™</td>
<td></td>
</tr>
<tr>
<td>00192855</td>
<td>Rat MSC adipogenic differentiation BulletKit™</td>
<td></td>
</tr>
<tr>
<td>CC-3232</td>
<td>Trypsin/EDTA solution</td>
<td>100 ml</td>
</tr>
</tbody>
</table>

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When placing an order or for scientific support, please refer to the product numbers and descriptions listed above. For a complete listing of all Poietics™ products, refer to the Lonza website or the current Lonza catalog. To obtain a catalog, additional information or scientific support you may contact Lonza by web, e-mail, telephone, fax or mail.

Product warranty

CULTURES HAVE A FINITE LIFESPAN IN VITRO. Lonza warrants its cells only if Poietics™ media are used, and the recommended protocols are followed. Cryopreserved rMSC cells are assured to be viable and functional when thawed and maintained properly.