### Materials List for:

**Toeprinting Analysis of Translation Initiation Complex Formation on Mammalian mRNAs**

Joseph A. Ross¹, Nehal Thakor¹,²,³

¹Department of Chemistry and Biochemistry, Alberta RNA Research and Training Institute, University of Lethbridge  
²Department of Neuroscience and the Canadian Centre for Behavioral Neuroscience (CCBN), University of Lethbridge  
³Arnie Charbonneau Cancer Institute, University of Calgary

Correspondence to: Joseph A. Ross at joseph.ross@uleth.ca, Nehal Thakor at nthakor@uleth.ca

URL: https://www.jove.com/video/57519  
DOI: doi:10.3791/57519

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Catalog Number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPC (Diethyl pyrocarbonate)</td>
<td>Sigma</td>
<td>D5758-100ML</td>
<td></td>
</tr>
<tr>
<td>TRIS base, Ultrapure</td>
<td>JT Baker</td>
<td>4109-01</td>
<td></td>
</tr>
<tr>
<td>KOAc (Potassium acetate)</td>
<td>Bio Basic</td>
<td>PB0438</td>
<td></td>
</tr>
<tr>
<td>Mg(OAc)₂ (Magnesium acetate tetrahydrate)</td>
<td>Bio Basic</td>
<td>MB0326</td>
<td></td>
</tr>
<tr>
<td>Sucrose, molecular biology grade</td>
<td>Calbiochem</td>
<td>573113-1KG</td>
<td></td>
</tr>
<tr>
<td>Spermidine</td>
<td>Sigma</td>
<td>85558</td>
<td></td>
</tr>
<tr>
<td>GMP-PNP (Guanosine 5′-[β,γ-imido]triphosphate trisodium salt hydrate) 0.1 M solution</td>
<td>Sigma</td>
<td>G0635</td>
<td></td>
</tr>
<tr>
<td>ATP (Adenosine 5′-triphosphate) disodium salt, 100 mM solution</td>
<td>Sigma</td>
<td>A6559</td>
<td></td>
</tr>
<tr>
<td>19:1 Acrylamide:bis-acrylamide, 40%</td>
<td>Bio Basic</td>
<td>A0006</td>
<td></td>
</tr>
<tr>
<td>Urea</td>
<td>Bio Basic</td>
<td>UB0148</td>
<td></td>
</tr>
<tr>
<td>500mL bottle top filtration units, 0.2 µm</td>
<td>Sarstedt</td>
<td>83.1823.101</td>
<td></td>
</tr>
<tr>
<td>Formamide</td>
<td>Sigma</td>
<td>F9037-100ML</td>
<td></td>
</tr>
<tr>
<td>EDTA (disodium salt, dihydrate)</td>
<td>Bio Basic</td>
<td>EB0185</td>
<td></td>
</tr>
<tr>
<td>SDS</td>
<td>Bio Basic</td>
<td>SB0485</td>
<td></td>
</tr>
<tr>
<td>Bromophenol blue</td>
<td>Bio Basic</td>
<td>BDB0001</td>
<td></td>
</tr>
<tr>
<td>Xylene cyanol FF</td>
<td>Bio Basic</td>
<td>XB0005</td>
<td></td>
</tr>
<tr>
<td>MEGAshortscript T7 transcription kit</td>
<td>Ambion</td>
<td>AM1354</td>
<td></td>
</tr>
<tr>
<td>mMESSAGE mMACHINE T7 transcription kit</td>
<td>Ambion</td>
<td>AM1344</td>
<td></td>
</tr>
<tr>
<td>Acid Phenol:Chloroform (5:1)</td>
<td>Ambion</td>
<td>AM9722</td>
<td></td>
</tr>
<tr>
<td>25:24:1 Phenol:Chloroform:Isoamyl Alcohol</td>
<td>Invitrogen</td>
<td>15593-049</td>
<td></td>
</tr>
<tr>
<td>Rabbit Reticulocyte Lysate (RRL). Should NOT be nuclease-treated.</td>
<td>Green Hectares, USA</td>
<td></td>
<td>Contact Green Hectares, ask for 1:1 RRL:water</td>
</tr>
<tr>
<td>RiboLock RNase Inhibitor (40 U/µL)</td>
<td>Thermo Fisher</td>
<td>E00382</td>
<td></td>
</tr>
<tr>
<td>100 mM dNTPs</td>
<td>Invitrogen</td>
<td>56172, 56173, 56174, 56175</td>
<td>Mix equal parts for a stock of 25 mM each.</td>
</tr>
<tr>
<td>AMV-RT, 10 U/µL</td>
<td>Promega</td>
<td>M5101</td>
<td></td>
</tr>
<tr>
<td>Product Description</td>
<td>Manufacturer</td>
<td>Part Number</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Sequenase Version 2.0 DNA Sequencing Kit</td>
<td>Thermo Fisher</td>
<td>707701KT</td>
<td></td>
</tr>
<tr>
<td>Model 4200 IR2 DNA analyzer</td>
<td>LI-COR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APS (Ammonium Persulfate)</td>
<td>Bio Basic</td>
<td>AB0072</td>
<td></td>
</tr>
<tr>
<td>TEMED</td>
<td>Bio Basic</td>
<td>TB0508</td>
<td></td>
</tr>
<tr>
<td>Phusion High Fidelity Polymerase</td>
<td>New England Biolabs</td>
<td>M0530</td>
<td></td>
</tr>
<tr>
<td>Turbo Dnase</td>
<td>Thermo Fisher</td>
<td>AM2238</td>
<td></td>
</tr>
</tbody>
</table>