5 min Insect DNA/RNA Extraction Kit

- Catalog #: N-1006
- The fastest and the simplest but most reliable DNA/RNA extraction system
- Co-purification of DNA/RNA from insect
- Can be used for fruit-fly larva/adult fly and any type of insect even with a strong exoskeleton
- Total procedure in 5 minutes.
- No liquid nitrogen or an expensive homogenizing device
- No damage to RNA quality during extraction procedure
- Every procedure at ambient temperature without any cold or freezing step
- Single column format
- Final 5-20 ug of total DNA/RNA
- The kit can be stored at ambient temperature for more than a year.
- One kit for 50 purifications
- The extracted DNA/RNA can be used in any downstream steps without any inhibitory effect.
- As pointed by other publication (Winnebeck et al., 2010), the intact insect RNA shows less 28 than 18rRNA, which can be misunderstood as damaged RNA. All insect RNA extracted by this kit shows the consistent pattern of the stronger band of 18 than 28s rRNA.
Storage Conditions and Product Stability
All components should be kept tightly sealed and stored at room temperature. These reagents should remain stable for at least 1 year in their unopened containers.

Precautions and Disclaimers
This kit is designed for research purposes only. It is not intended for human or diagnostic use.

Customer-Supplied Reagents and Equipment
- Benchtop microcentrifuge
- 1.5 mL microcentrifuge tubes
- Vortex
- Microcentrifuge tube pestle and small surgical scissors (not included in this kit). You may purchase it through Biofactories web; www.5minDNA.com, Catalogue number ETC-1001.
- Please refer the visual instruction on Youtube: https://www.youtube.com/watch?v=a2GbEophe0iQ
- 96-100 % isopropanol
- 96-100 % ethanol

Kit components for 1 box/50 prep
Microcentrifuge tube pestle and small surgical scissors are not included in this kit.

<table>
<thead>
<tr>
<th>Component</th>
<th>Products</th>
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<tbody>
<tr>
<td>Column/collection tubes</td>
<td>50 ea</td>
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<tr>
<td>Insect DNA/RNA Solution</td>
<td>30 ml</td>
</tr>
<tr>
<td>DNA/RNA Washing Solution</td>
<td>18 ml</td>
</tr>
<tr>
<td>Elution Solution</td>
<td>7.5 ml</td>
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<tr>
<td>Product insert</td>
<td>1 ea</td>
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</tbody>
</table>
5 min Insect DNA/RNA Extraction Kit®

Before Starting
Add 42 ml of 96-100% ethanol to Insect DNA/RNA Washing Solution. Mix well. Mark on the labels that ethanol is added. Store it at room temperature.

Important notice

1. All centrifugation in 10,000 rpm
2. If any liquid is trapped after a spin, additional spin can be done as required.
3. Insect RNA can be dramatically degraded if frozen sample is used even stored at -80°C. For the best quality of RNA, please try to use the fresh and alive sample. It is also important that the procedure is carried out as quickly as possible.
4. Insect sample should be flash-frozen in liquid nitrogen and transferred immediately to a -70°C for long-term storage.
5. When isolating total DNA/RNA from frozen insect, please make sure add Insect DNA/RNA Solution as soon as possible before squeeze the sample using the microtube pestle.
6. Please refer the visual instruction of microcentrifuge pestle on Youtube: https://www.youtube.com/watch?v=a2GbEphe0iQ
7. Applicable samples;
   A. Any tissue from worms and insect
   B. Any type of insect from maggot to adult even with a exoskeleton

You call sample prep as the name of game. Biofactories do it in 5 minutes.

www.5minDNA.com
Procedures for 5 min Insect DNA/RNA extraction

1. Add less than 100 mg of insect to 1.5 ml microtube (not supplied).
2. Add 0.5 ml of Insect DNA/RNA Solution. It is important to add the solution before the next step of squeezing.
3. Squeeze all solid mass with microcentrifuge tube pestle several times. It is essential to grind the sample completely for higher yield of DNA/RNA.
4. Vortex for 30 sec. and microcentrifuge for 15 sec.
5. Transfer 400 ul of lysate to column (Notice; Carry over some debride in this step doesn’t interference the RNA extraction).
6. Add 300 ul of 95-100 % isopropanol to the column. Vortex for 10 sec.
7. Centrifuge for 15 sec.
8. Discard the flowthrough. Reassemble the spin column with its collection tube.
10. Apply 400 ul of DNA/RNA Washing Solution and centrifuge for 30 sec. Discard the flowthrough.
11. Replace the collection tube with a clean microcentrifuge tube (not supplied).
12. Add 100 ul of DNA/RNA Elution Buffer to column.
13. Close the cap and vortex for 15 sec.
15. Reload the flowthrough to the top of column and spin for additional 30 sec.
Example of test

Figure: Total DNA/RNA extraction by **5 min Insect DNA/RNA Extraction Kit**. DNA/RNA was extracted from fruit flies followed by the supplied protocol. Total DNA/RNA was eluted to final 100 ul of Elution Buffer and analyzed on 1 % agarose gel by 10 ul each.

Lane 1; 1 Kb size marker, lanes 2-4: DNA/RNA extracted from 3 each fresh adult fruit-fly, and lane 5: total DNA/RNA from HeLa cell extracted by 5 min Cell/Virus DNA/RNA Extraction Kit. Please note that the intact insect RNA from this kit shows the unusual ribosomal RNA pattern. As pointed by other publication (Winnebeck et al., 2010), the intact insect RNA shows less 28 than 18rRNA, which can be misunderstood as damaged RNA. Compared to the last lane of animal cellular RNA, the pattern is drastically different with more major band in 18s rRNA.

Technical Support

Biofactories’ Technical Service Department is staffed by experienced scientists with extensive practical and theoretical expertise in sample and assay technologies and the use of our products. If you have any questions or experience any difficulties regarding products, please do not hesitate to contact us. For technical assistance and more information, please contact our Technical Support Team through email at techsupport@5minDNA.com.