

Tissue RNA Storage Solution (for future RNA extraction)

Cat. #: [W0592-20](#) (20 mL); [W0592-100](#) (100 mL); [W0592-500](#) (500 mL)

Storage: room temperature. **Shelf Life:** 12 months

Product Description (This product is for research use only.)

This product is a new RNA stabilizing reagent, which can rapidly penetrate tissue or cells to well protect RNA inside, for future RNA extraction. Submerging harvested tissue samples in this Tissue RNA Store Solution ensures the accuracy of downstream gene expression analysis. Using this reagent, there is no need to immediately process tissue samples or to freeze samples in liquid nitrogen any more. Samples can be protected in this product for long-term without jeopardize the quantity and quality of the RNA in it. The RNA will not degrade even after repeatedly freeze-thaw cycles.

RNA can be stored at 37°C for 2 days, 18~25°C for 7 days, 2~8°C for 30 days, and -20°C or -80°C for long-term preservation. Tissue protected by this product can be used for all the follow-up experiments on RNA, including the extraction of total RNA, micro RNA and mRNA, etc.

Important Notes:

1. If the Tissue RNA Storage Solution has precipitation, heat to 37°C and agitate to redissolve it.
2. Use Tissue RNA Storage Solution for fresh tissue only; do not freeze tissues before immersion in Tissue RNA Storage Solution.
3. The maximum thickness of the tissue of all sides should not exceed 0.5 cm. If the thickness is greatly exceeds 0.5 cm, the speed of Tissue RNA Storage Solution penetration will slow down, which may cause RNA degradation. Samples need to be chopped to less than 0.5 cm thickness in any single dimension.
4. Submerge fresh tissue blocks in at least 5 ~ 10 volumes of Tissue RNA Storage Solution.
5. If the tissue stored in Tissue RNA Storage Solution needs long-distance transportation, ensure the tissue is fully submerged in Tissue RNA Storage Solution.
6. For preservation of plant leaf tissue, the wax cuticle of leaf surface need to be destroyed before immersion in Tissue RNA Storage Solution.
7. Do not freeze samples immediately after immersion in Tissue RNA Storage Solution; sit at 4°C overnight to let the solution thoroughly penetrate the tissue.
8. Table 1: Suggested tissue storage time (upper limit) in Tissue RNA Storage Solution

| Storage Temperature | Storage Time |
|---------------------|---|
| 37°C | 2 days (some RNA degradation was seen at 3 days) |
| 18°C ~ 25°C | 7 days (slight RNA degradation was seen at 2 weeks) |
| 2°C ~ 8°C | 30 days |
| -20°C or -80°C | Long-term (sit at 4°C overnight first) |

Protocol

Preservation of fresh tissue

1. Estimate the needed amount of Tissue RNA Storage Solution to completely submerge the sample: 1 g tissue needs 5 mL Tissue RNA Storage Solution.
2. Label the tube(s) and add required amount of Tissue RNA Storage Solution to the tubes.
3. Quickly cut the tissue samples into small pieces of less than 0.5 cm thickness, and submerge in Tissue RNA Storage Solution completely. **Note:** Small size samples such as mouse liver, kidney, spleen, and plant samples without wax can be stored directly without cutting.
4. Store the tubes under appropriate condition. The storage time should not exceed the maximum suggested storage time at certain temperature (please refer to Table 1).
5. RNA Extraction: immediately extract RNA or do other treatment after take samples out of Tissue RNA Storage Solution.

Preservation of cultured cells, suspension cells and bacteria

1. Label the tube(s).
2. Transfer the sample cell suspension to the tube, centrifuge to harvest the cells, and discard the supernatant.
3. Wash once with ice cold PBS.
4. Resuspend the cells in a small amount of PBS.
5. Add **5 ~ 10 volumes of Tissue RNA Storage Solution** and mix well.
6. Store the tubes under appropriate condition. The storage time should not exceed the maximum suggested storage time at certain temperature (please refer to Table 1).
7. Sample preparation before RNA extraction:
 - i. For cell samples in Tissue RNA Storage Solution stored at 4°C, centrifuge to harvest the cells and discard the liquid (Tissue RNA Storage Solution).
 - ii. For cell samples stored at -20°C or -80°C, thaw the samples at room temperature first and centrifuge to harvest the cells, discard the liquid (Tissue RNA Storage Solution).
8. Immediately extract RNA or do other treatment.

Preservation of leukocytes from whole blood sample

1. Separate leukocytes from whole blood (from erythrocytes and serum). **Note:** Do not store whole blood, plasma or serum in Tissue RNA Storage Solution. High protein content in blood may form insoluble precipitate.
2. Wash the leukocytes once with ice cold PBS.
3. Resuspend the leukocytes in a small amount of PBS.

4. Add **5 ~ 10 volumes of Tissue RNA Storage Solution** and mix well.
5. Store the tubes under appropriate condition. The storage time should not exceed the maximum suggested storage time at certain temperature (please refer to Table 1).
6. Sample preparation before RNA extraction:
 - i. For cell samples in Tissue RNA Storage Solution stored at 4°C, centrifuge to harvest the cells and discard the liquid (Tissue RNA Storage Solution).
 - ii. For cell samples stored at -20°C or -80°C, thaw the samples at room temperature first and centrifuge to harvest the cells, discard the liquid (Tissue RNA Storage Solution).
7. Immediately extract RNA or do other treatment.

Customer also buy:

| DNA Extraction / PCR | Cat. # | Feature |
|--|-----------|---|
| 1-Drop PCR Mix (squeeze 1 drop do PCR, no pipetting) | W2599-5 | squeeze bottle makes PCR easier |
| Plasmid Miniprep | W0500-50 | 40 % below market price |
| Endotoxin-Free Plasmid Maxiprep | W2104-10 | 40 % below market price |
| Plasmid 96 Miniprep (4 x 96 rxn) | W0506-496 | 50 % below market price |
| 2x Gold Master Mix (with dyes, hot start, HiFi) | W0655-5 | 25 % below market price |
| UltraSYBR Master Mix (with ROX I) | W2601-5 | 15 % below market price |

| Virus Packaging | Cat. # | Feature |
|---|-------------|---|
| Lenti / Retrovirus 10x Titer-Up | P906 / P909 | package 10x more virus |
| Transfection Reagent | P901 | Higher efficiency than lipid-based kits |

| Exosome | Cat. # | 101Bio.com exosome purity | other vendors exosome purity |
|--|-------------|------------------------------|---------------------------------|
| Exosome Isolation Kit - cell media / serum | P100 / P101 | 95% | 25% ~ 30% |
| Exosomal DNA Extraction kit | P230 | unique | |
| Exosomal RNA / Protein Extraction kit | P200 | unique | |

| Protein Extraction | Cat. # | 101Bio.com protocol time | other vendors protocol time |
|--|--------|--------------------------|-----------------------------|
| Plasma Membrane Protein Extraction Kit | P503 | < 45 minutes | 180 minutes |
| Protein Extraction Kit from Gel Slices | P519 | 10 minutes | No competitor |

| Services | Turnaround | 101Bio.com price |
|---|---------------|------------------|
| Cloning service | 1 week / step | per request |
| Cell line gene editing - special expertise | 3 ~ 6 months | per request |
| Lentivirus packaging high titer / ultra high titer | 2 weeks | per request |
| Retrovirus packaging high titer / ultra high titer | 2 weeks | per request |
| AAV packaging service | 3 weeks | per request |
| CAR T Cell Engineering Service | TBD | per request |
| 3rd Generation Aptamer designing service | 3 ~ 6 months | per request |