

## Rapid Transfer Buffer, 10X

| Code              | Description                | Size   |
|-------------------|----------------------------|--------|
| N789-4L           | Rapid Transfer Buffer, 10X | 4 L    |
| N789-1L           | Rapid Transfer Buffer, 10X | 1 L    |
| N789-100ML-SAMPLE | Rapid Transfer Buffer, 10X | 100 mL |

### General Information

VWR Life Science AMRESCO's Rapid Transfer Buffer is a simple one-component system for quick, efficient transfer of proteins from SDS-PAGE gels to membranes for Western blotting applications. Transfer is completed in 10 to 20 minutes using a standard semi-dry or wet transfer apparatus, respectively. Dedicated, expensive transfer equipment is not needed. The transfer efficiency is equivalent to that observed when using a Tris-Glycine-Methanol transfer buffer.

Rapid Transfer Buffer is a methanol-free, non-hazardous formulation that is compatible with both PVDF and nitrocellulose membranes. It works well with most gel types, including Laemmli, pre-cast, and VWR Life Science AMRESCO's NEXT GEL®.

- Fast, efficient transfer in 10 – 20 minutes
- Compatible with standard wet and semi-dry transfer equipment
- Methanol-free, non-hazardous formulation
- Transfers to PVDF and nitrocellulose from poured or pre-cast gels

### Storage/Stability

Store at room temperature (18 to 26°C). Stable for one year.

### Product Use Limitations

For research use only. Not for therapeutic or diagnostic use.

### Protocol/Procedure

#### Wet Transfer Protocol

1. Prepare 1 L of 1X Rapid Transfer Buffer by diluting 100 mL of Rapid Transfer Buffer, 10X with 900 mL of deionized water.
2. Prepare membrane and filter paper for transfer:
  - a. A blotting membrane and 2 pieces of Whatman filter paper should be cut to fit dimensions of the gel. **Note:** PVDF membranes must be pre-wetted according to the manufacturer's instructions in 100% methanol prior to equilibration in transfer buffer.
  - b. Equilibrate the membrane and filter paper in 1X Rapid Transfer Buffer for a minimum of 5 minutes.
3. Following protein electrophoresis, assemble the blotting sandwich following the manufacturer's instructions for the transfer apparatus.
4. Place the blotting sandwich in a wet transfer tank filled with 1X Rapid Transfer Buffer.
5. Transfer for 20 minutes at 75 V at room temperature.

#### Semi-Dry Transfer Protocol

1. Prepare 100 mL of 1X Rapid Transfer Buffer by diluting 10 mL of Rapid Transfer Buffer, 10X with 90 mL of deionized water.
2. Prepare membrane and filter paper for transfer:
  - a. A blotting membrane and 2 pieces of Whatman filter paper should be cut to fit dimensions of the gel. **Note:** PVDF membranes must be pre-wetted according to the manufacturer's instructions in 100% methanol prior to equilibration in transfer buffer.
  - b. Equilibrate the membrane and filter paper in 1X Rapid Transfer Buffer for a minimum of 5 minutes.
3. Following electrophoresis, wash the gel for 5 minutes in deionized water.
4. Pre-equilibrate the gel in 1X Rapid Transfer Buffer for 5 minutes.
5. Assemble the blotting sandwich following the manufacturer's instructions for the semi-dry transfer apparatus.
6. Transfer for 10 minutes at 25 V at room temperature.

### Frequently Asked Questions

| Problem                  | Cause  | Solution  |
|--------------------------|--|---|
| Low transfer efficiency. | Insufficient transfer time.  | Not all proteins transfer at the same rate and efficiency. If needed, transfer time may be increased; empirical testing will be required to determine non-standard protocol conditions.                               |
|                          | Inadequate equilibration of membrane and/or filter paper in transfer buffer. | Completely cover membrane with transfer buffer and incubate for 5 minutes with gentle agitation for best results.   |
|                          | PVDF membrane not pre-wetted.  | Use methanol to wet entire PVDF membrane. Slowly add deionized water (to avoid air bubbles on the membrane). Transfer membrane to Rapid Transfer Buffer for equilibration.  |
| Uneven transfer          | Incomplete contact between membrane and gel.                                 | Always take care to roll out air bubbles between the membrane and gel in the transfer sandwich.   |
|                          | Incomplete hydration of membrane.  | Pre-wet the membranes per the manufacturer's instructions.  |
| Poor transfer of protein | Inefficient binding of some proteins to membrane.                            | Reduce Transfer time to avoid low molecular weight proteins passing through the membrane. Increase transfer time for high molecular weight proteins.  |
| Equipment error          | Incompatible transfer apparatus.   | Rapid Transfer Buffer does not require, and is not compatible with specialized transfer devices, such as the iBlot®Gel Transfer Device. Use Rapid Transfer Buffer with a standard semi-dry or wet transfer apparatus. |
|                          | Incompatible power supply.   | The optimal power supply should be capable of running at constant voltage with specifications of 5 – 250V, 0.01 – 3.0A, and 1 – 300W.   |



## For Technical Support

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ZY0622

Rev. 1 12/2015

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