Trans-Blot® Turbo™ Transfer System

Getting to the Finish Line Faster

BIO-RAD

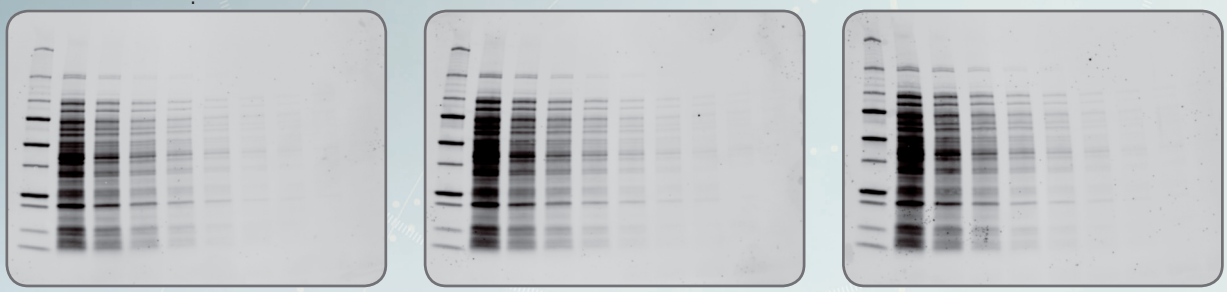
The Trans-Blot® Turbo™ is a fast, efficient, and reproducible transfer system for transferring proteins from gels to membranes in as little as 3 minutes.

Getting to the Finish Line Faster!

Bio-Rad introduces the Trans-Blot Turbo system — the next innovation in protein transfer. The Trans-Blot Turbo system reduces transfer protocols for gels to as little as 3 minutes, while maintaining high efficiency, throughput, and the flexibility to run turbo or traditional semi-dry protocols.

Turbo Transfers with Trans-Blot Turbo Transfer Packs

- **3-minute protocol** — A single Mini-PROTEAN® TGX™ gel (for proteins with MW 5–150 kD) can be transferred in as little as 3 min
- **7-minute protocol** — Up to 4 mini or 2 midi gels with mixed-molecular weight proteins (MW 5–150 kD) can be efficiently transferred in 7 min
- **10-minute protocol** — Up to 4 mini or 2 midi gels with high-molecular weight proteins (MW 25–300+ kD) can be efficiently transferred in 10 min

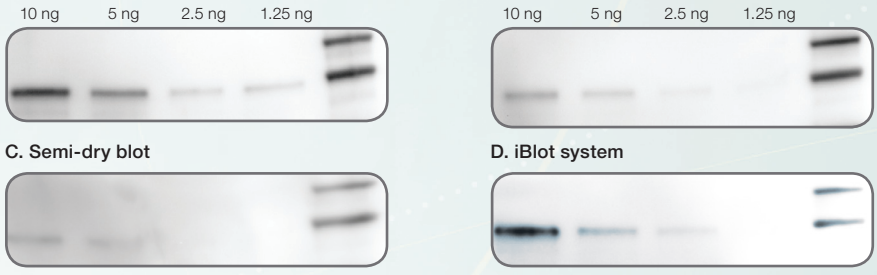


3 min transfer | 7 min transfer | 10 min transfer

Protein transferred using different protocols. *E. coli* lysate (6 µg) was diluted two-fold. Samples were separated with Mini-PROTEAN TGX gels, transferred with the Trans-Blot Turbo system, stained with SYPRO Ruby and imaged on a VersaDoc™ 4000 MP system. Standards in lane 1 are Precision Plus Protein™ Unstained, with a top band of 250 kD MW.

Superior Transfer Efficiency

- Higher sensitivity and better transfer efficiency is seen with the Trans-Blot Turbo system in comparison to other blotting techniques. This data set demonstrates the successful transfer of the 1.25 ng protein band only with the Trans-Blot Turbo system.



Superior transfer efficiency. Serial dilutions of transferrin were separated on a Criterion™ TGX™ 4–20% gel and transferred using four different blotting techniques. **A**, Trans-Blot Turbo system (25 V for 7 min); **B**, Tank blotting (100 V for 30 min); **C**, Semi-Dry (25 V for 30 min); **D**, iBlot (P3 for 7 min).

Throughput and Modularity

- **High Throughput** — Up to 4 mini or 2 midi gels can be transferred simultaneously, doubling the throughput of our nearest competitor
- **Modular** — Assemble and run transfers independently with the two cassettes. A single unit and multiple cassettes can be purchased to satisfy a whole lab's blotting requirements

Throughput Comparison based on Transfer Methodology

	Tank	Semi-dry	iBlot system	Trans-Blot Turbo system
# of Mini Blots	2	4	2	4
Transfer Time	30 min +	30 min +	7–10 min	3–10 min*

* Transfer times are optimized for specific molecular weight ranges

System Flexibility

- The Trans-Blot Turbo system accommodates both traditional semi-dry as well as rapid transfers

System Flexibility

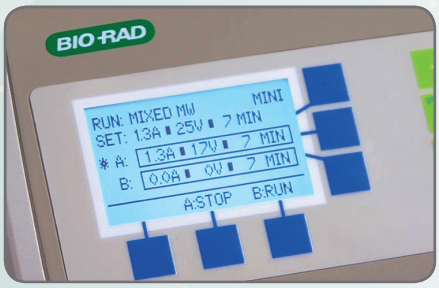
Current Method	Transfer Efficiency	Throughput	Speed
Tank transfer	●		
Semi-dry transfer		●	
Trans-Blot Turbo transfer	●	●	●

Ready-to-use Prepacked Consumables

- **Convenient, Green Transfer Packs** — Ready-to-use Trans-Blot Turbo transfer packs eliminate extra membrane, filter paper, and buffer preparation. Setup time is reduced to one minute from the opening of the gel cassette to the start of the transfer. Environmentally friendly packaging is recyclable and generates minimal waste; proprietary buffer contains no methanol

Intuitive Interface

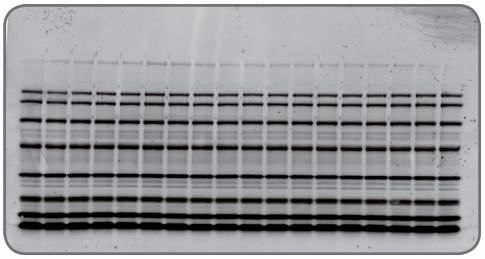
- Provides customer confidence in protocol selection and execution. Select from optimized preloaded protocols or customize and save/recall up to 25 user-defined transfer protocols



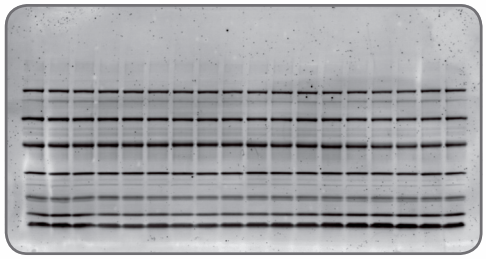
Universal Rapid Transfer

The Trans-Blot Turbo system was developed to deliver the most uniform transfer for all proteins regardless of molecular weight, post-translational modifications, or protein pI

- **6x stronger signal intensity** — Signal intensities after the transfer were calculated to be 6x stronger with the Trans-Blot Turbo system compared to the iBlot system
- **50% decrease in CV** — CVs across a single blot were 50% lower with the Trans-Blot Turbo system than with the iBlot system



Trans-Blot Turbo system

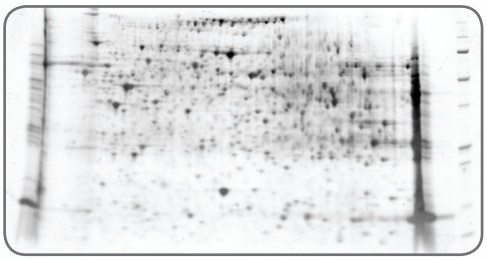


iBlot

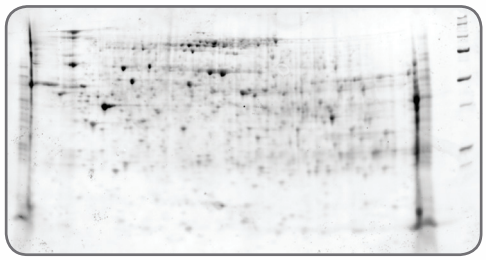
Intra-blot CV	
Trans-Blot Turbo system	
9%	
iBlot system	
17%	

Reproducibility across blot. Bio-Rad's SDS-PAGE Broad Range standards were separated on Criterion 4–20% gels, and transferred with the Trans-Blot Turbo and Invitrogen's iBlot systems, both using manufacturers' recommended 7 min protocol. The nitrocellulose membranes were subsequently stained with SYPRO Ruby and imaged on a VersaDoc™ 4000 MP system.

- **2x protein transfer** — Quantitation performed on equivalent 2-D gels transferred with the Trans-Blot Turbo and the iBlot systems demonstrated twice the number of proteins transferred and detected with the Trans-Blot Turbo system



Trans-Blot Turbo system



iBlot

2-D Spot Quantitation	
Trans-Blot Turbo system	
1066	
iBlot system	
555	

Higher transfer efficiency using the Trans-Blot Turbo system. Rat liver extract was focused on Bio-Rad's ReadyStrip™ 11 cm pH 5–8 IPG strips and separated on AnykD™ Criterion™ TGX™ gel. Duplicate gels were transferred with the Trans-Blot Turbo and iBlot systems, both using manufacturers' recommended 7 min protocol. The nitrocellulose membranes were subsequently stained with SYPRO Ruby and imaged on a VersaDoc 4000 MP system.

Ordering Information

Catalog #	Description
170-4155	**Trans-Blot Turbo Starter System**
170-4156	**Trans-Blot Turbo Transfer Pack, Mini, PVDF**, pkg of 10
170-4157	**Trans-Blot Turbo Transfer Pack, Midi, PVDF**, pkg of 10
170-4158	**Trans-Blot Turbo Transfer Pack, Mini, Nitrocellulose**, pkg of 10
170-4159	**Trans-Blot Turbo Transfer Pack, Midi, Nitrocellulose**, pkg of 10
170-4151	**Trans-Blot Turbo Cassette**, single
170-4152	**Trans-Blot Turbo Base**, no cassettes

BIO-RAD

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