



Trans-Blot® Turbo™ Transfer System

Getting to the Finish Line Faster





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, high throughput, and the flexibility to run turbo or traditional semi-dry protocols.

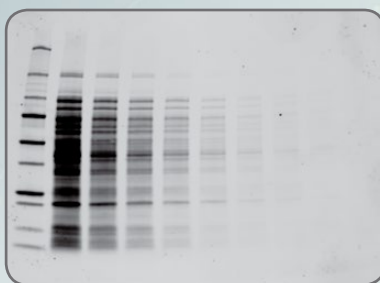


Turbo Transfers with Trans-Blot Turbo Transfer Packs

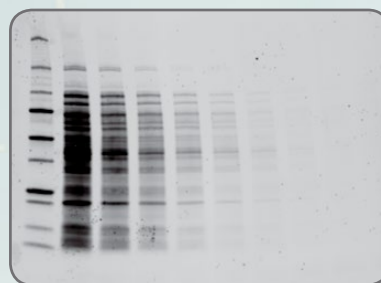
- **3-minute protocol** — a single Mini-PROTEAN® TGX™ Gel (for proteins with MW 5–150 kD) can be transferred in as little as 3 min
- **7-minute protocol** — up to 4 mini or 2 midi gels with mixed-molecular weight proteins (MW 5–150 kD) can be efficiently transferred in 7 min
- **10-minute protocol**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

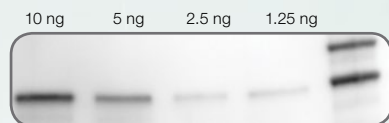
Protein transferred using different protocols. *E. coli* lysate (6 µg) was diluted twofold. Samples were separated with Mini-PROTEAN TGX Gels, transferred with the Trans-Blot Turbo System, stained with SYPRO Ruby, and imaged on a VersaDoc™ 4000 MP System. Standards in lane 1 are Precision Plus Protein™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



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 successful transfer of the 1.25 ng protein band only with the Trans-Blot Turbo System

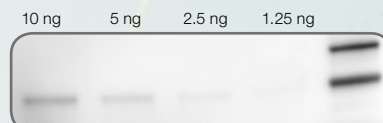
A. Trans-Blot Turbo System



C. Semi-dry blot



B. Tank blot



D. iBlot System (Life Technologies)



Superior transfer efficiency. Serial dilutions of transferrin were separated on a 4–20% Criterion™ TGX™ 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 blotting (25 V for 30 min); **D**, iBlot System (P3 protocol 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	●	●	●



Prepacked Consumables

- Ready-to-use transfer packs eliminate extra membrane, filter paper, and buffer preparation. Setup time is reduced to 1 minute from the opening of the gel cassette to the start of the transfer
- Ready-to-assemble transfer kits provide all consumables to transfer 40 blots, including transfer buffer, transfer stacks, and the option to select from nitrocellulose, PVDF, and LF PVDF membranes



Intuitive Interface

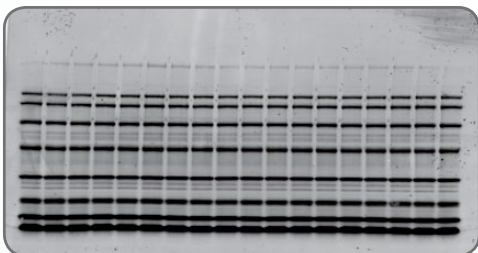
- Provides customer confidence in protocol selection and execution. Select from optimized preloaded protocols or customize and save/recall up to 25 user-defined transfer protocols



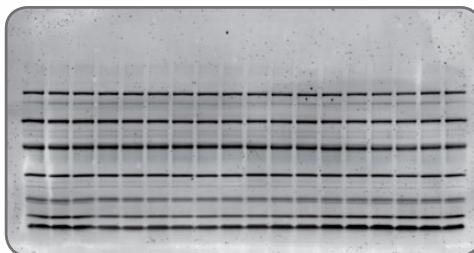
Universal Rapid Transfer

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



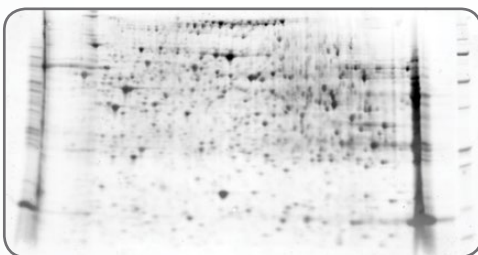
iBlot System

Intra-blot CV

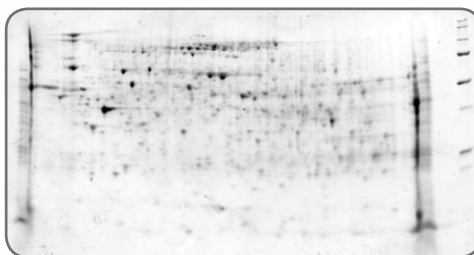
Trans-Blot Turbo System	9%
iBlot System	17%

Reproducibility across blot. Bio-Rad's SDS-PAGE Broad Range Standards were separated on 4–20% Criterion Gels and 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.

- **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 System

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™ IPG Strips (11 cm, pH 5–8) and separated on an Any kD™ 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
170-4270	Trans-Blot Turbo RTA Transfer Kit, Mini, Nitrocellulose , for 40 blots
170-4271	Trans-Blot Turbo RTA Transfer Kit, Midi, Nitrocellulose , for 40 blots
170-4272	Trans-Blot Turbo RTA Transfer Kit, Mini, PVDF , for 40 blots
170-4273	Trans-Blot Turbo RTA Transfer Kit, Midi, PVDF , for 40 blots
170-4274	Trans-Blot Turbo RTA Transfer Kit, Mini, LF PVDF , for 40 blots
170-4275	Trans-Blot Turbo RTA Transfer Kit, Midi, LF PVDF , for 40 blots

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