

# High-Yield Cell-Free Protein Expression

T<sub>NT</sub><sup>®</sup> SP6 High-Yield Protein Expression System

- Express protein in only 2 hours
- Generate full-length functional protein
- Achieve higher protein yields
- Use directly after expression



**Promega**

## TnT<sup>®</sup> SP6 High-Yield Protein Expression System

The TnT<sup>®</sup> High-Yield Protein Expression System<sup>(a,b)</sup>, based on optimized extract, is a single tube coupled transcription/translation system designed to express up to 100µg/ml of protein in only 2 hours directly from a variety of DNA templates. Protein yield can be increased as much as 2- to 4-fold with this system using dialysis reaching 200-400µg/ml in 10-20 hours.

- **Express protein in only 2 hours**

The DNA template is added directly to the Master Mix. After only 2 hours incubation, translation products are ready to use in a variety of applications (Figure 1).

- **Generate full-length functional protein**

Produce the full-length proteins needed for accurate protein analysis.

- **Achieve higher protein yields**

Synthesize 10-100µg/ml protein that can be used directly for faster screening of multiple targets and in expanded applications.

- **Use directly after expression**

Generate more reliable experimental data without additional purification steps.

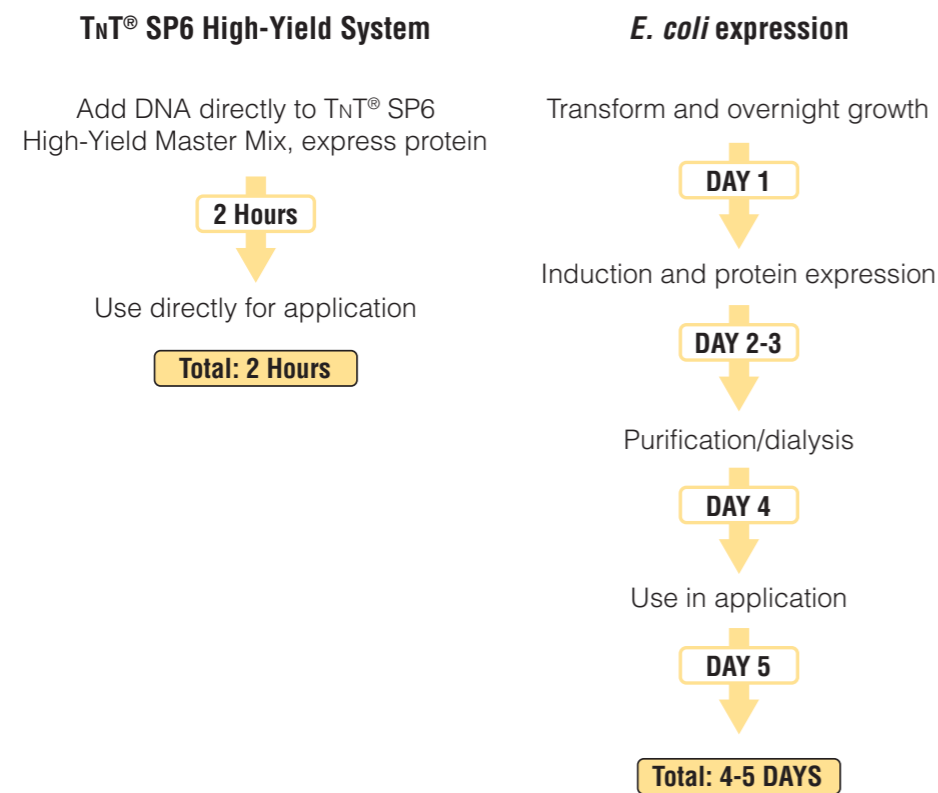


Figure 1. Time comparison of TnT<sup>®</sup> High-Yield Protein Expression System and *E. coli* based systems.

## Generate full-length functional protein

For accurate protein analysis it is necessary to express full-length proteins. The TnT<sup>®</sup> High-Yield Protein Expression System is eukaryotic based system that and provides an optimal environment for full-length protein expression (Figure 2).

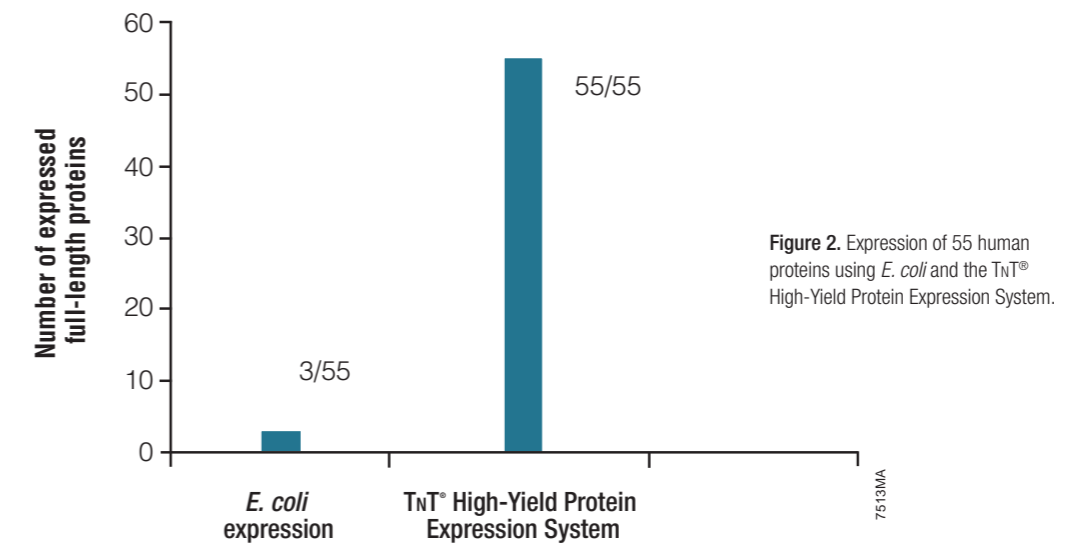


Figure 2. Expression of 55 human proteins using *E. coli* and the TnT<sup>®</sup> High-Yield Protein Expression System.

## Achieve higher protein yields

The TnT<sup>®</sup> High Yield Protein Expression System is designed to express up to 100µg/ml of protein. This amount can be increased using a dialysis system up to 200-400µg/ml enabling functional and structural studies that are not possible with conventional eukaryotic cell free expression systems.

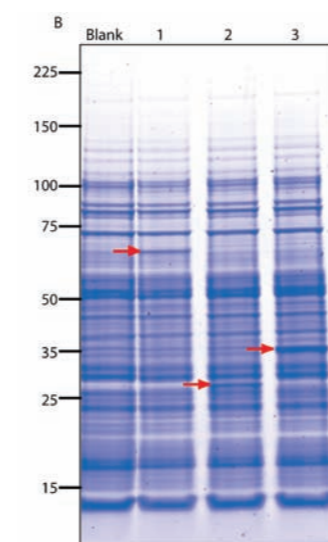


Figure 3. Protein synthesis in TnT<sup>®</sup> High-Yield Protein Expression System. Proteins were expressed by dialysis reaction using 8µg of plasmid DNA. Lane 1 Firefly Luciferase (62kDa), Lane 2, GFP (28kDa) and Lane 3, *Renilla* Luciferase (36kDa). For additional details regarding the dialysis reaction refer to PNotes #94.

## Ordering Information

Product	Size	Cat.#
TnT <sup>®</sup> SP6 High-Yield Protein Expression System	4 × 300µl (40 × 50µl reactions)	L3260
	1 × 300µl (10 × 50µl reactions)	L3261

## Related Products

Product	Size	Cat.#
pF3A WG (BYDV) Flexi <sup>®</sup> Vector*	20µg	L5671
pF3K WG (BYDV) Flexi <sup>®</sup> Vector*	20µg	L5681
pSP64 Poly(A) Vector	20µg	P1241
TnT <sup>®</sup> T7 Quick Coupled Transcription/Translation System	40 rxn	L1170
TnT <sup>®</sup> T7 Quick Coupled Transcription/Translation System, Trial Size	5 rxn	L1171
TnT <sup>®</sup> SP6 Quick Coupled Transcription/Translation System	40 rxn	L2080
TnT <sup>®</sup> SP6 Quick Coupled Transcription/Translation System, Trial Size	5 rxn	L2081

\* Recommended vectors for optimal expression when using the TnT<sup>®</sup> SP6 High-Yield System.

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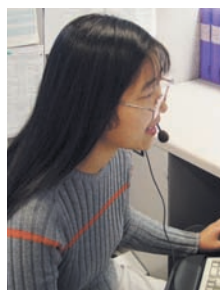
(a) U.S. Pat. Nos. 5,324,637 and 5,492,817, Australian Pat. No. 660329 and other patents.

(b) For Research Use. Any use of the product for diagnostics requiring clearance or approval by the FDA may require a license under the Mayo Clinic. U.S. Pat. Nos. 6,027,913 and 6,361,949.

Products may be covered by pending or issued patents or may have certain limitations. Please visit our Web site for more information.

Patents for the foundational PCR process, European Pat. Nos. 201,184 and 200,362, expired on March 28, 2006. In the U.S., the patents covering the foundational PCR process expired on March 29, 2005.

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