

# Technical Brief

## Recombinant Troponin I

Recombinant Human Troponin I (TnI) from Scripps Laboratories is available for research and diagnostic assay development. Native TnI has been used by the diagnostic industry for decades to diagnose heart attacks, monitor unstable angina, and even help determine the extent of heart muscle damage. Global shortages of native starting materials, however, have severely impacted the availability of native TnI to *in vitro* diagnostic manufacturers.

In response, Scripps developed Recombinant TnI as a reliable and economical alternative to native TnI. The data presented here demonstrate its suitability for research use, immunoassay development, and large-scale diagnostic assay manufacturing.

### SDS-PAGE

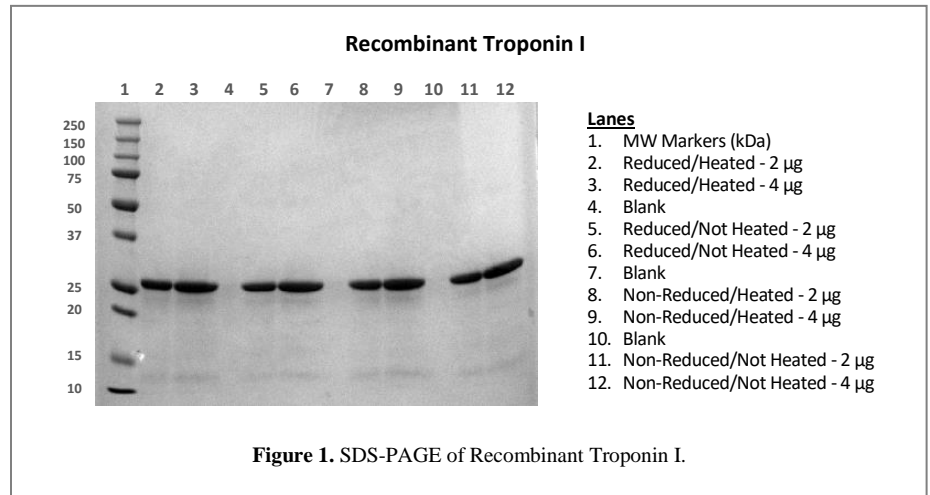
Figure 1 presents an SDS-PAGE image of highly purified Recombinant TnI under various sample conditions. All lanes of TnI display an approximate molecular weight of 24 kDa, which is consistent with the reported value.<sup>1</sup> In addition, minor bands are visible under all sample conditions, but in the western blot images that follow, these bands are confirmed to be molecular weight variants of TnI.

1. Marston and Zamora. *J. Muscle Res. Cell Motil.*, 2020, (41): 71-89.

### WESTERN BLOT

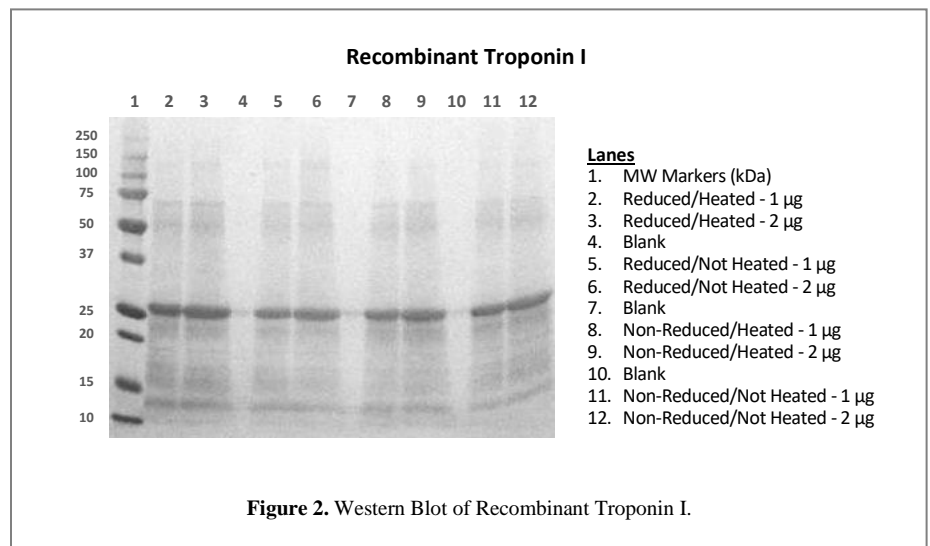
TnI is very unstable in human plasma or serum and also as a purified protein. To enhance its stability, TnI is often provided

### SDS-PAGE



**Figure 1.** SDS-PAGE of Recombinant Troponin I.

### WESTERN BLOT



**Figure 2.** Western Blot of Recombinant Troponin I.



(WESTERN BLOT cont.)

as a lyophilized solid or, if it is supplied as a liquid, it is presented in a buffer with a high concentration of urea. This instability leads to multiple molecular weight bands upon SDS-PAGE. The western blot in Figure 2, however, confirms these bands are TnI molecular weight variants, as they are recognized using a highly specific anti-TnI monoclonal antibody.

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The data presented here for Recombinant TnI demonstrate it is an excellent alternative to native TnI. Produced in *E. coli*, Recombinant TnI is available in large, bulk lots with excellent lot-to-lot consistency. Use the link above right to learn more.

## Ordering Information

<u>Product Description</u>	<u>Cat. No.</u>	<u>Part No.</u>	<u>Format</u>	
Recombinant Troponin I	T1431	90688	Lyophilized	<a href="#">View T1431-90688</a>
Recombinant Troponin I in liquid form is available upon request				<a href="#">Inquire</a>

*Expressed Without Affinity Tags*