

# Technical Brief

## Recombinant Troponin T

Recombinant Human Troponin T (TnT) from Scripps Laboratories is available for research and diagnostic assay development. Native TnT was used by the diagnostic industry for decades, but it is unstable and its purification requires a lengthy manufacturing protocol. In addition, the amount of TnT present in the starting material can vary widely. These factors make native TnT an expensive protein to purify and a challenging one to stabilize.

Scripps Laboratories offers highly purified Recombinant TnT as a reliable and economical alternative to native TnT. The data presented here demonstrate its suitability for research use, immunoassay development, and large-scale diagnostic assay manufacturing.

### SDS-PAGE

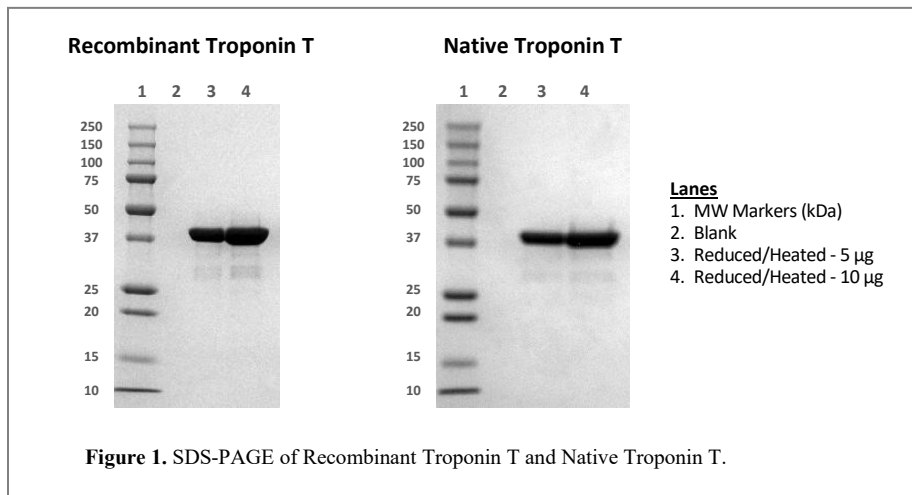
Figure 1 presents SDS-PAGE images of highly purified Recombinant TnT and Native TnT. Both proteins display an approximate molecular weight of 36 kDa, which is consistent with the reported value.<sup>1</sup> In addition, minor bands are visible in the reduced/heated and non-reduced/not heated samples of the recombinant and native products. In the western blot images that follow, these bands are confirmed to be molecular weight variants of TnT.

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

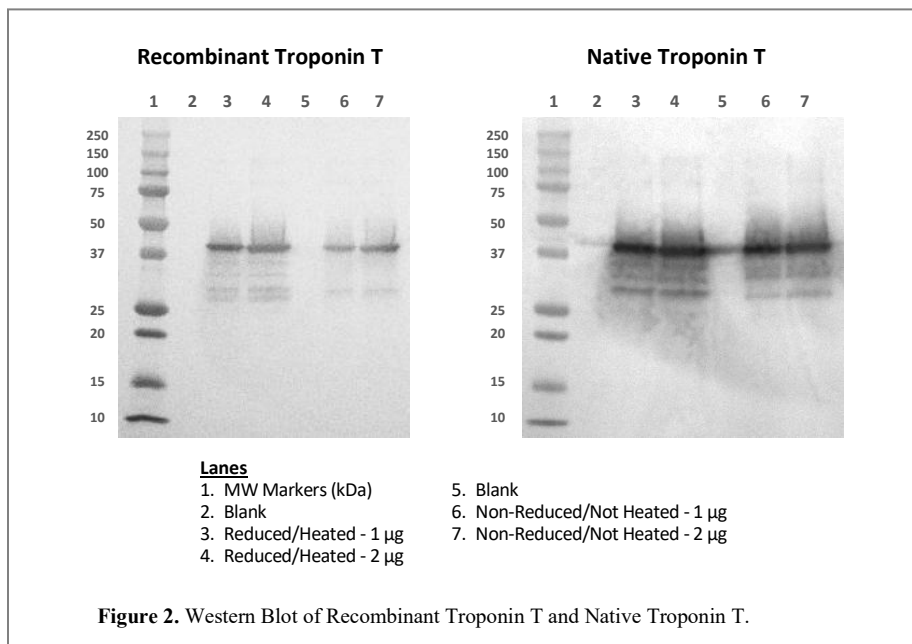
### WESTERN BLOT

TnT is known to be unstable in human plasma or serum and as a purified reagent. For this reason, it is often provided in

### SDS-PAGE



### WESTERN BLOT



(WESTERN BLOT cont.)

lyophilized form 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, which are visible in the SDS-PAGE shown in Figure 1. Upon Western Blot, the identity of these bands is confirmed to be Troponin T, using a highly specific, anti-TnT monoclonal antibody. This is demonstrated in Figure 2, with the blots of both Recombinant TnT and Native TnT.

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The data presented here for Recombinant TnT show it to be an excellent alternative to native TnT. Produced in *E. coli*, Recombinant TnT is available in large, bulk lots with excellent lot-to-lot consistency.

Recombinant Human Troponin T is in stock and available now. Use the links above right to learn more.

## Ordering Information

| <u>Product Description</u> | <u>Cat. No.</u> | <u>Part No.</u> | <u>Format</u> |                                  |
|----------------------------|-----------------|-----------------|---------------|----------------------------------|
| Recombinant Troponin T     | T1531           | 90661           | Lyophilized   | <a href="#">View T1531-90661</a> |
|                            | T1531           | 90672           | Liquid        | <a href="#">View T1531-90672</a> |

*Also Available:*

| <u>Product Description</u>       | <u>Cat. No.</u> | <u>Part No.</u> | <u>Format</u> |                                  |
|----------------------------------|-----------------|-----------------|---------------|----------------------------------|
| Recombinant Troponin ITC Complex | T0522           | 90708           | Liquid        | <a href="#">View T0522-90708</a> |

*Expressed Without Affinity Tags*

