

# Product Review

Raw Materials for Immunoassay Development and Manufacturing

## Cardiac Troponins

### Purified Cardiac Troponin Subunits

Catalog No.	Product	Source	Purity
T5224	Troponin C	Human Heart	≥95%
T1424	Troponin I	Human Heart	≥95%
T1514	Troponin T	Human Skeletal Muscle	≥95%

### PURIFIED CARDIAC TROPONIN

The troponin complex of cardiac and skeletal muscle is a group of contractile proteins composed of three non-identical subunits. Troponin C (TnC) is the calcium sensitive subunit and contains four Ca<sup>2+</sup> binding sites. Troponin I (TnI), the inhibitory subunit, binds actin in the relaxed state, thereby preventing muscle contraction by inhibiting the ATPase activity of actomyosin. Troponin T (TnT) is involved in the attachment of the troponin complex to the thin filament, binding tropomyosin and actin. The binding of intracellular Ca<sup>2+</sup> by TnC induces a conformational change in the troponin complex, which causes TnI to release actin, subsequently allowing actin to interact with myosin, resulting in muscle contraction. Each subunit of the troponin complex exists in various isoforms depending on its tissue origin.

Elevated serum levels of the cardiac isoforms of the troponin subunits are well-documented in myocardial infarction (MI). Evidence suggests that the subunits exist as the binary Troponin IC complex and as the complete Troponin ICT complex in the serum of MI patients. As such, immunoassays specific for cardiac isoforms must detect these complexes.

The Scripps troponin subunits are stable, and lot-to-lot consistency is excellent.