

Cardiac Biomarker Proteins (Reagents)

Recombinant Cardiac Reference Proteins for Calibrators, Controls, and Assay Development

Spectral Medical has manufactured recombinant cardiac biomarker proteins for over 25 years, supplying diagnostic instrument manufacturers, IVD kit developers, and research laboratories globally.

Our cardiac protein portfolio covers the two most clinically significant biomarker categories in cardiovascular testing: cardiac Troponin (cTnI-C and cTnI-C-II) and NT-proBNP.



SPECTRAL
Medical

Products

Catalogue No	Product	Description
RP-3500	Single Chain Cardiac Troponin I-C (ScTnI-C-1)	Human cTnI-cTnC fusion protein. Approximately 44 kDa. Purity above 85% by SDS-PAGE.
RP-3700	Single Chain Cardiac Troponin I-C Second Generation (ScTnI-C-2)	Human cTnI (aa 28-110) fused to cTnC. Approximately 30 kDa. Purity above 95% by SDS-PAGE.
RP-8100	Recombinant NT-proBNP	Human NT-proBNP amino acids 1-76, His-tagged. Approximately 9 kDa per subunit. Purity above 90% by SDS-PAGE.

All proteins are expressed in *E. coli* and contain no animal or human-derived components. Available in 0.1 mg, 1.0 mg, 5.0 mg, and 10.0 mg. Bulk quantities available by special order. **Contact us for pricing.**

Dual Analyte Detection: Free cardiac Troponin I (cTnI) is intrinsically unstable and progressively loses immunoreactivity in solution, while most troponin reference materials contain either Troponin I or Troponin C alone. Spectral's single-chain Troponin I-C proteins (RP-3500 and RP-3700) covalently link cTnI and cTnC into a single molecule, preserving immunoreactivity, enabling dual antibody recognition with fixed stoichiometry, and providing a more stable and consistent reference material across multiple assay formats [Liu et al., Clin Lab. 2001;47(1-2):19-27. PMID: 11214219].

Why Spectral

25 Years of Manufacturing

Spectral has produced cardiac biomarker proteins for over 25 years. That depth of experience is built into every production run and every supply commitment.

Consistent Purity

Purity above 85% for RP-3500, above 95% for RP-3700, and above 90% for RP-8100, delivered by affinity purification with Certificate of Analysis (CoA) available per production lot.

Flexible Order Sizes

From 0.1 mg for initial assessment through to bulk commercial supply under a Material Supply Agreement. One qualified supplier at every stage of your programme.

No Animal or Human Components

All proteins are produced by *E. coli* recombinant expression. No animal-derived or human-derived materials are used in any product.

Long Shelf Life

Spectral proteins are recognised in the market for their long shelf life, reducing inventory pressure and recalibration frequency for instrument platforms and kit programmes.

Supply Agreement Ready

Material Supply Agreement and Quality Agreement frameworks are in place and can be adapted to your organisation's requirements.

RP-3500 Specs

Single Chain Cardiac Troponin I-C (ScTnl-C-1)

First-generation single-chain Troponin I-C. Established reference protein for immunoassay and western blot applications.

Parameter	Specification
Expression system	<i>E. coli</i> recombinant
Protein format	Human cTnl-linker-cTnC fusion
Molecular weight	Approximately 44 kDa
Tnl content	Approximately 55% of total mass
Purity	Above 85% by SDS-PAGE
Purification	Salt extraction and affinity chromatography
Quantification	Bradford assay (BSA standard)
Storage	-20 degrees Celsius
Available sizes	0.1 mg, 1.0 mg, 5.0 mg, 10.0 mg. Bulk by special order.

RP-3700 Specs

Single Chain Cardiac Troponin I-C Second Generation (ScTnl-C-2)

Single-chain Troponin I-C second-generation. Highest-specification Troponin I-C product in the Spectral range.

Parameter	Specification
Expression system	<i>E. coli</i> recombinant
Protein format	Human cTnl (amino acids 28-110) fused to cTnC
Molecular weight	Approximately 30 kDa
Purity	Above 95% by SDS-PAGE
Purification	Affinity chromatography
Quantification	Bradford assay (IgG standard)
Storage	-20 degrees Celsius
Available sizes	0.1 mg, 1.0 mg, 5.0 mg, 10.0 mg. Bulk by special order.

RP-8100 Specs

Recombinant NT-proBNP

Recombinant amino-terminal fragment of human brain natriuretic peptide precursor. For cardiac panel programmes covering heart failure.

Parameter	Specification
Expression system	<i>E. coli</i> recombinant
Sequence coverage	Human NT-proBNP amino acids 1-76, His-tagged
Molecular weight	Approximately 9 kDa per subunit
Purity	Above 90% by SDS-PAGE
Purification	Affinity chromatography
Storage	-20 degrees Celsius
Available sizes	0.1 mg, 1.0 mg, 5.0 mg, 10.0 mg. Bulk by special order.

All Spectral Reagent Products are for research use only. Not for human or in vivo use.

Applications

Application	Detail
Calibrators for immunoassays	RP-3500 and RP-3700 are used to build calibration curves in troponin-based immunoassays. RP-8100 serves the same function in NT-proBNP assays.
Controls for immunoassays	The same proteins are used as quality control materials alongside calibrators to monitor assay performance across testing runs.
Western blot standards	RP-3700 at approximately 30 kDa and above 95% purity provides a defined reference band for troponin detection. RP-8100 at approximately 9 kDa per subunit suits low-molecular-weight NT-proBNP detection applications.

FAQ

What are these proteins used for?

Spectral cardiac proteins are used as calibrators and controls in troponin and NT-proBNP immunoassays, and as reference standards in western blot applications. They are used across diagnostic instrument platforms, IVD kit development programmes, and laboratory research.

What is the difference between RP-3500 and RP-3700?

Both are single-chain Troponin I-C fusion proteins expressed in *E. coli*. RP-3500 is the first-generation product: approximately 44 kDa, purity above 85% by SDS-PAGE. RP-3700 is the second-generation product: a refined cTnI fragment (amino acids 28-110) fused to cTnC, approximately 30 kDa, purity above 95% by SDS-PAGE, affinity purified. RP-3700 is the preferred choice where maximum protein purity is required.

Do these proteins contain animal or human-derived components?

All Spectral cardiac proteins are produced by *E. coli* recombinant expression and contain no animal-derived or human-derived components.

What quantities are available?

Standard sizes are 0.1 mg, 1.0 mg, 5.0 mg, and 10.0 mg. Bulk quantities are available by special order under a negotiated supply agreement. Contact: reagents@spectraldx.com or slahiri@spectraldx.com to discuss your requirements.

Can Spectral support a long-term supply agreement?

Material Supply Agreement and Quality Agreement frameworks are already in place. Spectral supplies from initial assessment quantities through to bulk commercial volumes with the same qualified material throughout, supporting programmes from early development through to full-scale production.

What quality documentation is available?

Each production lot is accompanied by a Certificate of Analysis (CoA) confirming product purity and concentration. Please contact us to discuss any specific documentation requirements for your program.

How should these proteins be stored?

All Spectral cardiac biomarker proteins should be stored at -20 degrees Celsius. Spectral products are recognised for their long shelf life.

What is the pricing?

Please contact us directly for pricing. Discounts are available on bulk orders and under negotiated supply agreements.

CONTACT: reagents@spectraldx.com or slahiri@spectraldx.com
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spectraldx.com/cardiac-biomarker-proteins

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