# *Myoglobin*
# *Troponin I & hs-CRP*
FDA Cleared


## **Cardiac: An Aid in the Early Diagnosis and Management of Cardiac Diseases**

**Unique**
The markers of choice for the diagnosis of cardiac disease

**Accurate**
High correlation to confirmed clinical samples

**Simple**
Microwell Enzyme-based assay (ELISA)

**High Sensitivity**
- **Myo -** 5 ng/ml
- **cTnI -** 1.0 ng/ml
- **hs-CRP -** 0.1 mg/l

**Convenient**
Ready to use reagents
Rapid turnaround
- Myo & hs-CRP (1hr 5min)
- cTnI (1hr 50min)

BIOMERICA

## INTENDED USE

BIOMERICA offers cardiac ELISA test kits for measurement of Myoglobin, Troponin I, and high sensitivity C-reactive protein (hs-CRP) to aid in the early diagnosis and management cardiac diseases.

**Myoglobin ELISA** is intended for the quantitative determination of Myoglobin in human serum. Following cardiac necrosis associated with myocardial infarction (MI), Myoglobin is one of the first markers to rise above normal levels.

**Cardiac Specific Troponin I ELISA** is intended for the quantitative determination of cardiac Troponin I in human serum. Measurement of Troponin I values are useful in the evaluation of acute myocardial infarction (AMI).

**hs-CRP ELISA** is intended for the quantitative determination of C-reactive protein (CRP) in human serum. Enhanced sensitivity measurements of CRP can be useful for the detection and evaluation of infection, tissue injury, inflammatory disorders, and associated diseases

## BACKGROUND

**Myoglobin**
Myoglobin, a heme protein with a molecular weight of approximately 17,500 Daltons is found in both cardiac and skeletal muscle. Its levels have been used as an early marker for MI in the absence of skeletal muscle trauma or other factors associated with a non-cardiac related increase in circulating Myoglobin. A number of reports suggest using the measurement of Myoglobin as a diagnostic aid in ruling out MI with negative predictive values of up to 100% reported at certain time periods after the onset of symptoms.

**Troponin I**
Troponin is the inhibitory or contractile regulating protein complex of striated muscle. It is located periodically along the thin filament of the muscle and consists of three distinct proteins: Troponin I, Troponin C, and Troponin T. Cardiac Troponin I (cTnI) has been useful in the differential diagnosis of patients presented to Emergency Departments (ED) with chest pain. cTnI and CK-MB have similar release patterns (4-6 hours after the onset of pain), but the level of cTnI remains elevated for a much longer period of time (6-10 days) thus providing for a longer window of detection of cardiac injury.

**hs-CRP**
As elevated CRP values are always associated with pathological changes, the CRP assay provides useful information for the diagnosis, therapy, and monitoring of inflammatory processes and associated disease. Additionally, measurement of CRP by high-sensitivity CRP assays may add to the predictive value of other cardiac markers (Myoglobin, creatine-kinase-MB, and Troponin I and T) that are used to assess the risk of cardiovascular and peripheral vascular disease.

## PERFORMANCE

| | *Assay Time:* | *Accuracy* | *Sensitivity* |
|---|---|---|---|
| Myo: | 1hr. 5 min. | Biomerica ELISA = 0.939 ELISA Kit + 55.05 ng/mL<br>r = 0.995 N = 150 | 5 ng/mL |
| cTnI: | 1hr. 50 min. | Biomerica ELISA = 0.954 ELISA Kit - 3.99 ng/mL<br>r = 0.906 N = 204 | 1.0 ng/mL |
| hs-CRP: | 1hr. 5 min. | Biomerica ELISA = 0.959 ELISA Kit + 1.39 mg/L<br>r = 0.840 N = 117 | 0.1 mg/L |

## ORDERING

| Catalog No. | Description |
|---|---|
| 7030 | Myoglobin ELISA kit - Quantitative (96 tests) |
| 7031 | Troponin I ELISA kit - Quantitative (96 tests) |
| 7033 | hs-CRP ELISA kit - Quantitative (96 tests) |

CE and EN ISO 13485:2003 Compliant, Multi-language inserts available

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