

**Product No. A-2582**

**Lot 085H4843**

**Rabbit Anti-Thioredoxin - Agarose**  
IgG Fraction of Antiserum

Anti-Thioredoxin is developed in rabbit using thioredoxin from *E. coli* as immunogen. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum which is essentially free of other rabbit serum proteins. The product is composed of purified antibody coupled to cyanogen bromide-activated agarose. The purified antibody is immobilized on agarose at 5.2 mg antibody per ml bed volume. The product is supplied as a 1:1 suspension in 0.01 M PBS, pH 7.4, containing 0.1% sodium azide (see MSDS)\* as preservative.

### **Specificity**

Anti-Thioredoxin was found to be specific for thioredoxin when tested by dot blot immunoassay using recombinant thioredoxin and immunoblotting using an *E. coli* extract, prior to agarose coupling.

### **Description**

Thioredoxin is a small electron transport protein that serves as the hydrogen donor in the enzymatic reduction of ribonucleotides to deoxyribonucleotides.<sup>1</sup> The thioredoxin system consists of thioredoxin, thioredoxin-reductase and NADPH. This system is involved in other reductive processes such as the enzymatic reduction of methionine sulfoxide and sulfate.<sup>2</sup> Thioredoxin from *E. coli* consists of a single polypeptide chain of 108 amino acids with a molecular weight of 11,700.<sup>3</sup> The oxidation-reduction function of thioredoxin is linked to a single intra-molecular disulfide bridge, forming a 14 member ring. The protein contains no prosthetic group or bound metals. The gene encoding *E. coli* thioredoxin has been cloned into several plasmids and serves as a fusion partner for the expression of other cloned genes. The system is particularly useful for high level production of soluble fusion proteins in the *E. coli* cytoplasm. In many cases, these fusion proteins fold correctly and thus display full biological activity.

### **Uses**

Agarose Anti-Thioredoxin may be used for immunoaffinity purification and immunoprecipitation of thioredoxin from bacterial lysates.

### **Binding Capacity**

Anti-Thioredoxin-Agarose binds a minimum of 0.4 mg of thioredoxin per ml of settled resin.

In order to obtain best results, it is recommended that each user determine the optimal working dilution for individual applications by titration assay.

### **Storage**

Store at 2-8°C. **Do Not Freeze.**

\* Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

### **References**

1. Rechard, P., "The Biosynthesis of Deoxyribose", Ciba Lectures, Wiley and Sons, New York.
2. Gonzalez Poroque, P., et al., J. Biol. Chem., **245**, 2371 (1968).
3. Holmgren, A., Eur. J. Biochem., **6**, 475 (1968).

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