ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

E. coli Thioredoxin (TrxA, fusion protein) Antibodies

☐ **Cat** # THRX11-S	Rabbit Anti-Thioredoxin (E. Coli, fusion protein) antiserum	**SIZE**: 100 ul
☐ **Cat** # THRX11-A	Rabbit Anti-Thioredoxin (E. Coli, fusion protein) IgG, aff pure	**SIZE**: 100 ul
☐ **Cat** # THRX11-C	Purified Thioredoxin (E. Coli, fusion protein) Protein WB +ve control	**SIZE**: 100 ul

Recombinant DNA technology allows the addition of short pieces of well-defined tags, "peptides" or proteins at the amino or c-terminus of target genes, which can provide 'affinity handles' designed to bind specific matrices. Therefore, tags enable a selective identification and purification of the protein of interest. Eukaryotic genes are often cloned into E. coli thioredoxin gene, resulting in the expression of a desired protein as a fusion hybrid with thioredoxin (1). Thioredoxin is a small electron transport protein that serves as hydrogen donor in the enzymatic reduction of ribonucleotides to deoxyribonucleotides (1). Thioredoxin from E. coli consists of a single polypeptide of 108 aa (~11.7 kDa). The gene encoding Thioredoxin has been clones into several plasmids and serves as a fusion partner for the expression of other clones genes. The system often produces high expression of soluble fusion proteins in the E. coli cytoplasm. The fusion proteins may also fold correctly with biological activity. Anti-Thioredoxin antibodies allow a simple isolation of fusion proteins directly from the crude bacterial lysate, using immunoaffinity chromatography (1) or used in immunoprecipitation. Anti- thioredoxin can also be used for the immunocytochemical detection of thioredoxin in cells and tissues that express transfected bacterial thioredoxin gene (1). Ant-thioredoxin may be used in various immunoassays to identify the expression of thioredoxin fusion protein.

Note: E. coli thioredoxin (TrxA) that is typically used in recombinant protein fusion protein expression is different from human thioredoxin 1 and 2 proteins. E. coli and human Thrx are only 30% conserved. Do not use E. coli TrxA protein and antibodies for human Trx1 or 2 tests.

Source of Antigen and Antibodies

Antigen	recombinant purified E. coli thioredoxin, P0AA25 (THIO_ECOLI, 109 aa, trxA/fipA, tsnC) # (Cat # THRX15-R)
Ab Host/type	Rabbit Polyclonal antiserum # **THRX11**-S and IgG purified over antigen-agarose column (#THRX11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Thioredoxin is a single polypeptide chain of ~11.7 kDa. It is purified from E. coli (>95% by HPLC). For **western blot +ve control (Cat # THRX11-C)** is supplied in SDS-PAGE sample buffer (reduced). Load ~10 ul/lane to visualize with appropriate antibodies (#**THRX11-S or THRX11-A**). SDS may crystallize in cold conditions. It will redissolve by light warming before taking it from the stock. It should be heated once prior to loading on gels. **THRX11-C** formulations is not biologically active. It is not suitable for ELISA or other applications where native protein is required. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **THRX11C** solution prior to heating and loading on gels. Load 15 ul/lane for good visibility. Store frozen in suitable aliquots. Do not freeze, thaw, or hear repeatedly.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

☐ 100ul ☐ ☐ solution ☐ lyophilized powder

Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG

☐ 100 ug/100ul ☐ solution ☐ lyophilized powder

Supplied in **Buffer**: PBS+0.1% BSA

Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-2K using Chemiluminescence technique). Antibodies react with native and denatured THRx-tag containing proteins.

ELISA (1:10-50K; using 50-100 ng control antigen/well).

Histochemistry & Immunofluorescence: not tested. We recommend the use of affinity pure antibody at 10-50 ug/ml.

General References: Narayanan, S., J. Chromatogr., 658, 237 (1994), Casey, J., et al., J. Immunol. Meth., 179, 105 (1995), Uhlen, M., and Moks, T., Meth. Enzymol., 185, 129 (1990), Skerra, A., et al., Bio/Technology, 9, 273 (1991), Holmgren A (1985) Ann Rev. Biochem. 54, 237; Rosen A et al (1995) Int. Immunol. 7, 625

*This product is for In vitro research use only.

Other Fusion tag antibodies available from ADI

Catalog#	ProdDescription
THRX11-AS	Anti-Thioredoxin (THRx, E. coli) IgG-Agarose
THRX15-R	Purified Recombinant Thioredoxin (THRx) (fusion protein) for ELISA

Anti-MBP, Poly-His, GST, beta-Gal, VSV-G, Flag, HA-tag, and c-myc

THRX11-S-A-C 131003A

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