Human Thioredoxin-2 / TXN2 Protein (His Tag)

Catalog Number: **12557-H07E**

General Information

Gene Name Synonym:

MT-TRX; MTRX; RP5-1119A7. 13-005; TRX2

Protein Construction:

A DNA sequence encoding the mature form of human TXN2 (Q99757) (Thr 60-Gly 166) was expressed, with a polyhistide tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 97 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to catalyze the reduction of insulin. The reaction leads to precipitation, which can be measured by absorbance at 650 nm. The specific activity is 5-8 A650/min/mg.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human TXN2 consisting of 118 amino acids and has a calculated molecular mass of 13.4 kDa. The apparent molecular mass of the protein is approximately 13 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 8.3

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

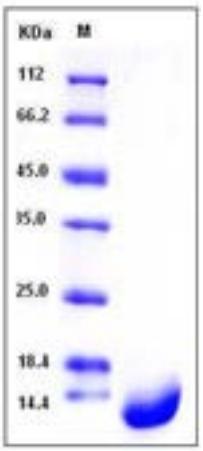
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Thioredoxin-2, also known as TXN2, MTRX and TRX2, is a member of the thioredoxin family. Tryparedoxins (TXN) are thioredoxin-related proteins which, as trypanothione:peroxiredoxin oxidoreductases, constitute the trypanothione-dependent antioxidant defense and may also serve as substrates for ribonucleotide reductase in trypanosomatids. Thioredoxin-2 / TXN2 contains onethioredoxin domain. It is widely expressed in adult (at protein level) and fetal tissues. Human Thioredoxin-2 / TXN2 is a small redox protein important in cellular antioxidant defenses, as well as in the regulation of apoptosis. Thioredoxin-2 / TXN2 has an anti-apoptotic function and plays an important role in the regulation of mitochondrial membrane potential. Thioredoxin-2 / TXN2 could be involved in the resistance to anti-tumor agents. It possesses a dithiol-reducing activity. Thioredoxin-2 / TXN2 plays an important role in protecting the mitochondria against oxidative stress and in sensitizing the cells to ROS-induced apoptosis. Mammalian Thioredoxin-2 / TXN2 is a mitochondrial isoform of highly evolutionary conserved thioredoxins. Thioredoxins are small ubiquitous protein-disulfide oxidoreductases implicated in a large variety of biological functions.

References

1.Chen Y., et al., 2002, J. Biol. Chem. 277: 33242-8. 2.Smeets A., et al., 2005, Protein Sci. 14: 2610-21. 3.Wen,S. et al., 2009, Am J Med Genet A 149A (2): 155-60.