PRODUCT INFORMATION

Thioredoxin 80 (human, recombinant)

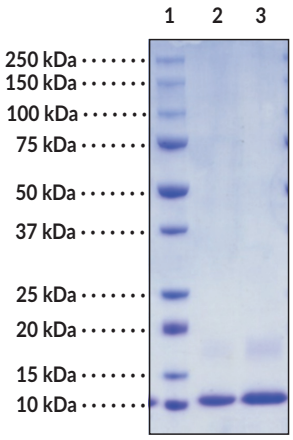
Item No. 11522

Overview and Properties

Synonyms:	ECEF, Eosinophil Cytotoxicity-enhancing Factor, Truncated Thioredoxin 1, Trx80, Txn80
Source:	Recombinant human thioredoxin 80 expressed in *E. coli*
Amino Acids:	1-80
Uniprot No.:	P10599
Molecular Weight:	9.04 kDa
Storage:	4°C (as supplied)
Stability:	≥6 months
Purity:	≥85% estimated by SDS-PAGE
Supplied in:	Lyophilized in PBS, pH 7.4

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Thioredoxin 80 (2 µg)
Lane 3: Thioredoxin 80 (4 µg)

SDS-PAGE Analysis of Thioredoxin 80.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 07/08/2021

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Truncated thioredoxin 1 (Trx80) is a C-terminally truncated cleavage product of the oxidoreductase Trx1 that acts as a cytokine.[1,2] It is expressed primarily in monocytes but also in T cells, activated platelets, and cytotrophoblasts, and localizes to the cell surface.[1] Trx80 contains three cysteines but does not have oxidoreductase activity, and, unlike Trx, it forms homodimers. It induces proliferation of, and increases the expression of CD14, CD40, CD54, and CD86 in, monocytes, as well as enhances eosinophil-induced cytotoxicity of schistosomes and the secretion of IL-12 and IFN-γ in peripheral blood mononuclear cells (PBMCs). It also acts as a chemoattractant for monocytes, T cells, and neutrophils. Trx80-activated monocytes inhibit growth of the bacteria *L. monocytogenes* and *B. abortus* by inducing their accumulation in lysosomes, but Trx80 increases replication of HIV in infected macrophages.[3,4] It inhibits amyloid-β (Aβ) aggregation in cell-free assays and reduces the toxicity of Aβ in SH-SY5Y cells.[5] Levels of Trx80 are reduced in postmortem brain tissue from patients with Alzheimer's disease.[2]

References

1. Pekkari, K. and Homgren, A. Truncated thioredoxin: Physiological functions and mechanism. *Antioxid. Redox Signal.* **6(1)**, 53-61 (2004).
2. Gil-Bea, F., Akterin, S., Persson, T., *et al*. Thioredoxin-80 is a product of alpha-secretase cleavage that inhibits amyloid-beta aggregation and is decreased in Alzheimer's disease brain. *EMBO Mol. Med.* **4(10)**, 1097-1111 (2012).
3. Cortes-Bratti, X., Bassères, E., Herrera-Rodriguez, F., *et al*. Thioredoxin 80-activated-monocytes (TAMs) inhibit the replication of intracellular pathogens. *PLoS One* **6(2)**, e16960 (2011).
4. Newman, G.W., Balcewicz-Sablinska, M.K., Guarnaccia, J.R., *et al*. Opposing regulatory effects of thioredoxin and eosinophil cytotoxicity-enhancing factor on the development of human immunodeficiency virus 1. *J. Exp. Med.* **180(1)**, 359-363 (1994).
5. Mahmood, D.F.D., Abderrazak, A., El Hadri, K., *et al*. The thioredoxin system as a therapeutic target in human health and disease. *Antioxid. Redox Signal.* **19(11)**, 1266-1303 (2013).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM