PRODUCT INFORMATION

TEAD4 Cofactor-Binding Domain (human, recombinant)

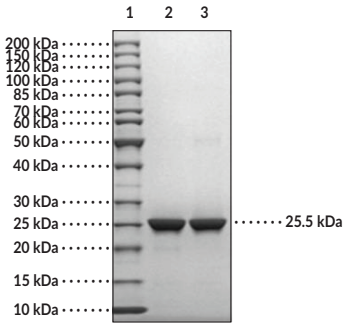
Item No. 41076

Overview and Properties

Synonyms:	EFTR-2, Embroyonic TEA Domain-containing Factor 2, RTEF-1, TEA Domain Transcription Factor 4, TEF-3, Transcriptional Enhancer Factor 3
Source:	Recombinant human TEAD4 cofactor-binding domain expressed in insect cells
Amino Acids:	217-434
Uniprot No.:	Q15561
Molecular Weight:	25.5 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Protein Concentration:	***batch specific*** mg/ml

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

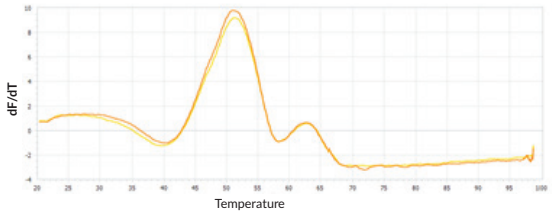
Images

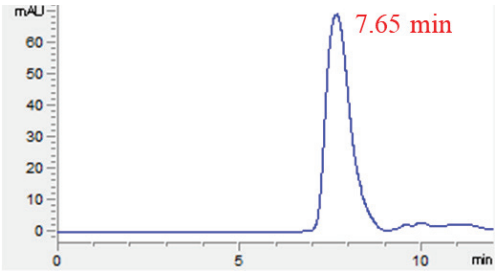


Lane 1: MW Markers
Lane 2: TEAD4 Cofactor-Binding Domain (2 µg, reduced)
Lane 3: TEAD4 Cofactor-Binding Domain (2 µg, non-reduced)

SDS-PAGE Analysis of TEAD4 Cofactor-Binding Domain.

Melting profile of TEAD4 Cofactor-Binding Domain





Analytical SEC of TEAD4 Cofactor-Binding Domain

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.

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Description

TEA domain transcription factor 4 (TEAD4) is a transcription factor and member of the TEA domain-containing family of transcription factors.[1] It is composed of an N-terminal TEA DNA-binding domain, a hydrophobic proline-rich domain, and a C-terminal cofactor-binding domain (CBD), which binds TAZ or YES-associated transcriptional regulator (YAP), or vestigial-like proteins (VGLLs), and is involved in TAZ-, YAP-, or VGLL-dependent transcription of genes in the Hippo signaling pathway, which regulates embryonic and organ development, proliferation, and cell death.[2] TEAD4 associates with VGLL3 to regulate growth and differentiation in primary mouse myotubes, but not primary mouse myoblasts, as well as with VGLL1, TAZ, or YAP to promote transcription of cell cycle and self-renewal genes and induce a trophectoderm lineage in human pluripotent stem cells (PSCs).[3,4] The tertiary structure and function of TEAD4 requires C-terminal palmitoylation at residue 360.[5] A CBD-only TEAD4 isoform binds TEAD cofactors and acts as a negative regulator of Hippo signaling, which decreases proliferation and the levels of epithelial-to-mesenchymal transition (EMT) proteins when expressed in cancer cells.[6] Increased tumor levels of TEAD4 are associated with decreased survival time in patients with lung adenocarcinoma (LUAD), but increased levels of the CBD-only TEAD4 isoform in tumors are associated with increased survival time in patients with LUAD or colon cancer.[6,7] Cayman's TEAD4 Cofactor-Binding Domain (human, recombinant) protein consists of 219 amino acids, has a calculated molecular weight of 25.5 kDa, and is depalmitoylated at cysteine 360.

References

1. Landin-Malt, A., Benhaddou, A., Zider, A., *et al.* An evolutionary, structural and functional overview of the mammalian TEAD1 and TEAD2 transcription factors. *Gene* **591(1)**, 292-303 (2016).
2. Gibault, F., Sturbaut, M., Bailly, F., *et al.* Targeting transcriptional enhanced associate domains (TEADs). *J. Med. Chem.* **61(12)**, 5057-5072 (2018).
3. Figeac, N., Mohamed, A.D., Sun, C., *et al.* VGLL3 operates via TEAD1, TEAD3 and TEAD4 to influence myogenesis in skeletal muscle. *J. Cell Sci.* **132(13)**, jcs225946 (2019).
4. Yang, Y., Jia, W., Luo, Z., *et al.* VGLL1 cooperates with TEAD4 to control human trophectoderm lineage specification. *Nat. Commun.* **15(1)**, 583 (2024).
5. Noland, C.L., Gierke, S., Schnier, P.D., *et al.* Palmitoylation of TEAD transcription factors is required for their stability and function in Hippo pathway signaling. *Structure* **24(1)**, 179-186 (2016).
6. Qi, Y., Yu, J., Han, W., *et al.* A splicing isoform of TEAD4 attenuates the Hippo-YAP signalling to inhibit tumour proliferation. *Nat. Commun.* **7**, 11840 (2016).
7. Hu, Y., Mu, H., and Deng, Z. The transcription factor TEAD4 enhances lung adenocarcinoma progression through enhancing PKM2 mediated glycolysis. *Cell Biol. Int.* **45(10)**, 2063-2073 (2021).

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