



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# PRODUCT INFORMATION



## TAK1-TAB1 Fusion (human, recombinant)

Item No. 33990

### Overview and Properties

**Synonyms:** **TAK1:** MAP3K7, TGF1a, TGF $\beta$ -activated Kinase 1, Mitogen-activated Protein Kinase Kinase Kinase 7, Transforming Growth Factor- $\beta$ -activated Kinase 1, TGF- $\beta$ -activated Kinase 1  
**TAB1:** MAP3K7IP1, TAK1-binding Protein 1, TGF- $\beta$ -activated Kinase 1 and MAP3K7-binding Protein 1, Mitogen-activated Protein Kinase Kinase Kinase 7-interacting Protein 1

**Source:** Active recombinant human N-terminal GST-tagged TAK1 fused to TAB1 via a DFGGGGG peptide linker expressed in insect cells

**Amino Acids:** 1-303 (TAK1) and 437-504 (TAB1)

**Uniprot No.:** O43318 (TAK1), Q15750 (TAB1)

**Molecular Weight:** 69 kDa

**Storage:** -80°C (as supplied)

**Stability:**  $\geq 6$  months

**Purity:** *batch specific* ( $\geq 93\%$  estimated by SDS-PAGE)

**Supplied in:** 40 mM Tris-HCl, pH 8.0, with 110 mM sodium chloride, 2.2 mM potassium chloride, 3 mM DTT, and 20% glycerol

**Protein Concentration:** *batch specific* mg/ml

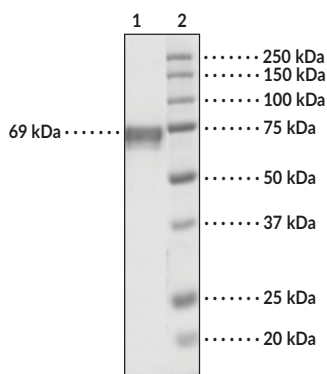
**Activity:** Kinase activity confirmed using MBP as a substrate at 35°C in an ADP detection assay.

**Specific Activity:** *batch specific* U/mg

**Bioactivity:** See figures for details

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

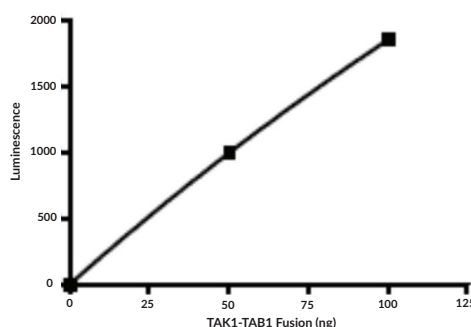
### Images



Lane 1: TAK1-TAB1 Fusion  
Lane 2: MW Markers

#### SDS-PAGE Analysis of TAK1-TAB1 Fusion.

Representative gel image shown; actual purity may vary between each batch.



Specific Activity of TAK1-TAB1 Fusion (human, recombinant)

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, 11/19/2021

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

---

TGF- $\beta$ -activated kinase 1 (TAK1) is a member of the serine/threonine MAP3K family that has roles in immunity and inflammation.<sup>1,2</sup> It binds to TAK1-binding protein 1 (TAB1) via its N-terminal kinase domain and to TAB2 and TAB3 via its C-terminal domain.<sup>1</sup> TAK1 is ubiquitously expressed and constitutively associated with its activating binding partner TAB1, whereas it only associates with TAB2 and TAB3 following stimulation by upstream factors such as IL-1 $\beta$ .<sup>2-5</sup> It is involved in innate and adaptive immunity and the inflammatory response.<sup>1,2</sup> A TAK1-TAB1 fusion protein induces the activation of JNK, p38 MAPK, and I $\kappa$ B kinase (IKK) and the production of IL-6 in cancer cells.<sup>5</sup> *Tak1* knockdown induces splenomegaly and increases serum levels of several interleukin cytokines in mice.<sup>6</sup> Hyperactivation of TAK1-TAB complexes is associated with autoimmune diseases and tumorigenesis.<sup>2</sup> Cayman's TAK1-TAB1 Fusion (human, recombinant) protein can be used for enzyme activity assays.

## References

---

1. Dai, L., Thu, C.A., Liu, X.-Y., *et al.* TAK1, more than just innate immunity. *IUBMB Life* **64**(10), 825-834 (2012).
2. Xu, Y.-R. and Lei, C.-Q. TAK1-TABs complex: A central signalosome in inflammatory responses. *Front. Immunol.* **11**, 608976 (2021).
3. Kondo, M., Osada, H., Uchida, K., *et al.* Molecular cloning of human TAK1 and its mutational analysis in human lung cancer. *Int. J. Cancer* **75**(4), 559-563 (1998).
4. Kishimoto, K., Matsumoto, K., and Ninomiya-Tsuji, J. TAK1 mitogen-activated protein kinase kinase is activated by autophosphorylation within its activation loop. *J. Biol. Chem.* **275**(10), 7359-7364 (2000).
5. Sakurai, H., Nishi, A., Sato, N., *et al.* TAK1-TAB1 fusion protein: A novel constitutively active mitogen-activated protein kinase kinase that stimulates AP-1 and NF-kappaB signaling pathways. *Biochem. Biophys. Res. Commun.* **297**(5), 1277-1281 (2002).
6. Vink, P.M., Smout, W.M., Driessen-Engels, L.J., *et al.* In vivo knockdown of TAK1 accelerates bone marrow proliferation/differentiation and induces systemic inflammation. *PLoS One* **8**(3), e57348 (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