TRIM24 Protein, Human (P. pastoris, His)

Cat. No.:	HY-P700503
Synonyms:	TRIM24; tripartite motif containing 24; TIF1, transcriptional intermediary factor 1 , tripartite motif containing 24; transcription intermediary factor 1-alpha; hTIF1; RNF82; TIF1A; Tif1a; TIF1-alpha; RING finger protein 82; tripartite motif-containing 24; E3 ubiquitin-protein ligase TRIM24; transcriptional intermediary factor 1; PTC6; TF1A; TIF1; TIF1ALPHA;
Species:	Human
Source:	P. pastoris
Accession:	O15164 (K891-K1012)
Gene ID:	8805
Molecular Weight:	16.5 kDa

PROPERTIES

AA Sequence	K K K T E G L V K L T P I D K R K C E R L L L F L Y C H E M S L A F Q D P V P L T V P D Y Y K I I K N P M D L S T I K K R L Q E D Y S M Y S K P E D F V A D F R L I F Q N C A E F N E P D S E V A N A G I K L E N Y F E E L L K N L Y P E K R F P K
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	TRIM24, a versatile transcriptional coactivator, dynamically interacts with numerous nuclear receptors and coactivators, influencing the transcriptional landscape of target genes. Its binding to chromatin is notably influenced by histone H3 modifications, showing a preference for histone H3 that is unmodified at 'Lys-4' (H3K4me0) and acetylated at 'Lys-23' (H3K23ac). Beyond its coactivator role, TRIM24 exhibits E3 protein-ubiquitin ligase activity. In the DNA damage response, a regulatory interplay unfolds wherein ATM kinase phosphorylates TRIM24 early in the response, leading to its ubiquitination and degradation. Upon sufficient DNA repair, TP53 activates TRIM24 transcription, initiating a feedback loop that results in

TRIM24-mediated TP53 ubiquitination and degradation. This dual regulatory mechanism underscores TRIM24's pivotal role in the delicate balance between cell proliferation and apoptosis. Furthermore, TRIM24 extends its influence to innate immunity by orchestrating the 'Lys-63'-linked ubiquitination of TRAF3, activating downstream signaling in the type I IFN pathway. Notably, TRIM24 also exerts a negative regulatory effect on NLRP3/CASP1/IL-1beta-mediated pyroptosis and cell migration, possibly through the ubiquitination of NLRP3.

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