FOXP3 Protein, Human (His)

Cat. No.:	HY-P71628
Synonyms:	AIID; DIETER; Forkhead box P3; Forkhead box protein P3; FOXP3; FOXP3_HUMAN; FOXP3delta7; Immune dysregulation polyendocrinopathy enteropathy X linked; Immunodeficiency polyendocrinopathy enteropathy X linked; IPEX; JM2; PIDX; Scurfin; XPID
Species:	Human
Source:	E. coli
Accession:	Q9BZS1 (M1-L260)
Gene ID:	50943
Molecular Weight:	Approximately 31.7 kDa

PROPERTIES

AA Sequence	M P N P R P G K P S A P S L A L G P S P G A S P S W R A A P K A S D L L G A R G P G G T F Q G R D L R G G A H A S S S S L N P M P P S Q L Q L P T L P L V M V A P S G A R L G P L P H L Q A L L Q D R P H F M H Q L S T V D A H A R T P V L Q V H P L E S P A M I S L T P P T T A T G V F S L K A R P G L P P G I N V A S L E W V S R E P A L L C T F P N P S A P R K D S T L S A V P Q S S Y P L L A N G V C K W P G C E K V F E E P E D F L K H C Q A D H L L D E K G R A Q C L L Q R E M V Q S L E Q Q L V L E K E K L S A M Q A H L
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
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	FOXP3, a pivotal transcriptional regulator, is indispensable for the development and inhibitory function of regulatory T-cells (Treg), playing a crucial role in maintaining immune system homeostasis. It acts as both a transcriptional repressor and activator, influencing the Treg lineage's suppressive function and stability, while modulating conventional T-cell expansion and function. FOXP3 coordinates the activation of key genes like CTLA4 and TNFRSF18, concomitant with the repression of cytokine-encoding genes such as interleukin-2 (IL2) and interferon-gamma (IFNG). Through its association with various transcription factors and chromatin modifiers, FOXP3 inhibits cytokine production, T-cell effector function, and the

differentiation of IL17-producing helper T-cells (Th17), favoring Treg development. FOXP3's interactions with proteins like IKZF3, RUNX1, RORC, RELA, NFATC2, and others contribute to its diverse regulatory functions. Dimerization is essential for its transcriptional regulator activity, and it forms complexes with proteins such as STUB1, HSPA8, PPP1CA, PPP1CB, KAT5, HDAC7, USP7, ZFP90, TRIM28, RUNX2, RUNX3, and IKZF4.

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