IGFBP-3 Protein, Human (HEK293, His)

Cat. No.:	HY-P73138
Synonyms:	Insulin-like growth factor-binding protein 3; IGF-BP3; IBP-3; IGFBP-3
Species:	Human
Source:	HEK293
Accession:	P17936 (G28-K291)
Gene ID:	3486
Molecular Weight:	40-45 kDa

PROPERTIES

Biological Activity	1. Measured by its binding ability in a functional ELISA. Immobilized human IGF2 at 10 μg/mL (100 μl/well) can bind biotinylated Human His-IGFBP3, The EC_{50} of biotinylated Human His-IGFBP3 is ≤18 ng/mL. 2. Measured by its binding ability in a functional ELISA. Immobilized human IGF1 at 10 μg/mL (100 μl/well) can bind biotinylated Human His-IGFBP3, The EC_{50} of biotinylated Human His-IGFBP3 is ≤24 ng/mL. 3. Measured by its ability to inhibit the biological activity of IGFI or IGFII on MCF7 human breast adenocarcinoma cells (Karey, K.P. et al. (1988) Cancer Research 48:4083.). The ED_{50} for this effect is typically 0.05-0.2 μg/mL in the presence of 14 ng/mL human IGFII.
Appearance	Solution.
Formulation	Supplied as a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	IGFBP-3 Protein, a member of the insulin-like growth factor-binding proteins (IGFBPs), plays a crucial role in extending the half-life of insulin-like growth factors (IGFs) and modulating their growth-promoting effects on cell culture. With the capacity to either inhibit or stimulate IGF-induced cellular responses, IGFBP-3 exerts its regulatory influence by altering the interaction dynamics between IGFs and their respective cell surface receptors. Additionally, IGFBP-3 exhibits IGF-independent antiproliferative and apoptotic effects mediated by its receptor TMEM219/IGFBP-3R. Furthermore, IGFBP-3 inhibits the positive effect of humanin on insulin sensitivity and promotes testicular germ cell apoptosis. Interactions with XLKD1 and the formation of a ternary complex with IGF1 or IGF2 and a glycoprotein (ALS) further underscore the diverse

roles of IGFBP-3. The intricate network of interactions, including those with humanin and TMEM219, highlights the multifaceted nature of IGFBP-3 in modulating cellular processes and signaling pathways associated with growth and apoptosis.

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