BMP-15 Protein, Human (His, Myc, soluition)

Cat. No.:	HY-P72426A
Synonyms:	Growth/differentiation factor 9B
Species:	Human
Source:	E. coli
Accession:	O95972 (Q268-R392)
Gene ID:	9210
Molecular Weight:	Approximately 23.0 kDa

PROPERTIES

AA Sequence	Q A D G I S A E V T A S S S K H S G P E N N Q C S L H P F Q I S F R Q L G W D H W I I A P P F Y T P N Y C K G T C L R V L R D G L N S P N H A I I Q N L I N Q L V D Q S V P R P S C V P Y K Y V P I S V L M I E A N G S I L Y K E Y E G M I A E S C T C R
Appearance	Solution.
Formulation	Supplied as 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	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	Bone morphogenetic protein 15 (BMP-15; GDF9B), also known as growth and differentiation factor 9B (GDF9B), is a polymorphic ligand protein belonging to the TGFβ family and expresses exclusively in the oocyte[1]. BMP15 is closely related to GDF9, which is essential for early ovarian folliculogenesis[1]. BMP15 and GDF9 involve in the genetic control of follicular development. Their main functions include regulating cellular proliferation/differentiation, follicular survival/atresia, and oocyte maturation, to creat an environment supporting follicle selection and growth[2]. BMP15 involves in p38 MAPK pathway to up-regulate anti-Mullerian hormone (AMH) expression in granulosa cells, which is produced by granulosa cells (GCs) of preantral and small antral follicles and plays a role in regulating the recruitment of primordial follicles and the FSH-dependent development of follicles[3].

Otherwise, BMP15 binds HIF-1α/SCF signaling pathway to induce stem cell factor (SCF) expression in human GCs of polycystic ovary syndrome (PCOS) related follicles[4].
BMP-15 is widely found in different animals, while the sequence in human is different from rat (63.66%), and mouse (64.01).

REFERENCES

[1]. Galloway SM, et al. Bmp15 mutations and ovarian function. Mol Cell Endocrinol. 2002 May 31;191(1):15-8.

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[3]. Zhao Z, et al. BMP15 regulates AMH expression via the p38 MAPK pathway in granulosa cells from goat. Theriogenology. 2018 Sep 15;118:72-79.

[4]. Cao LY, et al. Aberrant BMP15/HIF-1α/SCF signaling pathway in human granulosa cells is involved in the PCOS related abnormal follicular development. Gynecol Endocrinol. 2022 Sep 23:1-7.

[5]. Shimizu K, et al. Molecular mechanism of FSHR expression induced by BMP15 in human granulosa cells. J Assist Reprod Genet. 2019 Jun;36(6):1185-1194.

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