Motilin (26-47), human, porcine

Cat. No.:	HY-P1037
CAS No.:	52906-92-0
Molecular Formula:	$C_{120}H_{188}N_{34}O_{35}S$
Molecular Weight:	2699.07
Sequence:	Phe-Val-Pro-Ile-Phe-Thr-Tyr-Gly-Glu-Leu-Gln-Arg-Met-Gln-Glu-Lys-Glu-Arg-Asn-Lys-Gly-Gln
Sequence Shortening:	FVPIFTYGELQRMQEKERNKGQ
Target:	Motilin Receptor
Pathway:	GPCR/G Protein
Storage:	Sealed storage, away from moisture Powder -80°C 2 years -20°C 1 year * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

BIOLOGICAL ACTIVITY

Description	Motilin (26-47), human, porcine is an endogenous motilin receptor ligand with K_i and EC_{50} of 2.3 nM and 0.3 nM in a Chinese hamster ovary cell line.
IC_{50} & Target	EC50: 0.3 nM (motilin receptor, Chinese hamster ovary cell)[1] Ki: 2.3 nM (motilin receptor, Chinese hamster ovary cell)[1]
In Vitro	[Bpa^1,Ile^{13}]motilin is a full agonist at the motilin receptor that increases intracellular calcium in a concentration-dependent manner (EC_{50} = 1.5 ± 0.4 nM)[1]. Motilin binds with high affinity (IC_{50} 0.7± 0.2 nM) to receptors on smooth muscle cells. Motilin selectively activates G(q) and G(13), stimulates G alpha(q)-dependent phosphoinositide (PI) hydrolysis and 1,4,5-trisphosphate (IP(3))-dependent Ca^{2+} release, and increases cytosolic free Ca^{2+}. Motilin induces a biphasic, concentration-dependent contraction (EC_{50} = 1.0 +/- 0.2 nM), consisting of an initial peak followed by a sustained contraction[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Coulie B, et al. Identification of peptide ligand-binding domains within the human motilin receptor using photoaffinity labeling. J Biol Chem. 2001 Sep 21;276(38):35518-22. Epub 2001 Jul 18.

[2]. Huang J, et al. Signaling pathways mediating gastrointestinal smooth muscle contraction and MLC20 phosphorylation by motilin receptors. Am J Physiol Gastrointest Liver Physiol. 2005 Jan;288(1):G23-31.

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