Insulin(cattle)

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Cat. No.: HY-P1156

CAS No.: 11070-73-8

Molecular Formula: $C_{254}H_{377}N_{65}O_{75}S_6$

Molecular Weight: 5733.49

Sequence: Phe-Val-Asn-Gln-His-Leu-Cys-Gly-Ser-His-Leu-Val-Glu-Ala-Leu-Tyr-Leu-Val-Cys-Gly-Glu-Arg-Gly-Phe-Phe-Tyr-Thr-Pro-Lys-Ala. Gly-Ile-Val-Glu-Gln-Cys-Cys-Ala-Ser-Val-Cys-Ser-Leu-Tyr-Gln-Leu-Glu-Asn-Tyr-Cys-Asn (Disulfide bridge: Cys7-Cys7', Cys19-Cys20', Cys6'

Sequence Shortening: FVNQHLCGSHLVEALYLVCGERGFFYTPKA. GIVEQCCASVCSLYQLENYCN (Disulfide bridge : Cys7-Cys7', Cys19-Cys20', Cys6'-Cys11')

Target: Insulin Receptor

Pathway: Protein Tyrosine Kinase/RTK

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)

SOLVENT & SOLUBILITY

In Vitro

H_2O : 40 mg/mL (6.98 mM; ultrasonic and adjust pH to 2 with HCl)

H_2O : 10 mg/mL (1.74 mM; ultrasonic and warming and adjust pH to 3 with HCl and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	0.1744 mL	0.8721 mL	1.7441 mL
5 mM	0.0349 mL	0.1744 mL	0.3488 mL
10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Insulin cattle (Insulin from bovine pancreas) is a two-chain polypeptide hormone produced in vivo in the pancreatic β cells. Insulin cattle has often been used as growth supplement in culturing cells.

In Vitro

Two-chain polypeptide hormone produced by the β-cells of pancreatic islets. The α and β chains are joined by two interchain disulfide bonds. The α chain contains an intrachain disulfide bond. Insulin regulates glucose uptake into muscle and fat cells by recruiting membrane glucose transporter Glut-4 to cell surface. Insulin cattle has often been used as growth supplement in culturing cells at the concentration ranging from 1 to 10 μg/mL of medium.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Genome Biol. 2023 Mar 29;24(1):61.
- Stem Cells Int. 2022 Sep 20;2022:2760899.
- J Proteomics. 2023 Mar 24;104889.
- Adipocyte. 2022 Dec;11(1):562-571.
- SSRN. 2022.

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REFERENCES

[1]. Yousefi R, et al. Aspirin-mediated acetylation induces structural alteration and aggregation of bovine pancreaticinsulin. J Biomol Struct Dyn. 2016;34(2):362-75.

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