

Calcitonin/CALCA Protein, Human (HEK293, Fc)

Cat. No.:	HY-P77586
Synonyms:	Calcitonin; CCP; PDN-21; CALCA; CALC1; CGRP; CGRP-I; CGRP1; CT; KC; PCT; Procalcitonin; Calcitonin 1; Katalcalcin
Species:	Human
Source:	HEK293
Accession:	P01258 (A26-N141)
Gene ID:	796
Molecular Weight:	40-48 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4. Normally 5% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μg , determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu\text{g}/\text{mL}$ in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years from date of receipt. 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

Calcitonin, encoded by the CALCA gene, induces a rapid yet transient reduction in blood calcium and phosphate levels by facilitating the incorporation of these ions into bones. This hormone plays a crucial role in calcium homeostasis, functioning as a counter-regulatory mechanism to maintain balanced mineral levels in the bloodstream. Additionally, katalcalcin, a peptide derived from the CALCA gene, is identified as a potent plasma calcium-lowering factor. The ability of calcitonin to modulate bone resorption and regulate circulating mineral concentrations underscores its significance in skeletal health and systemic mineral balance. Further exploration of the molecular pathways involved in these actions may contribute to a deeper understanding of calcitonin's role and potential therapeutic applications in conditions related to abnormal calcium metabolism^[1].

Calcitonin/CALCA Protein (Human) lowers blood Ca²⁺ levels by inhibiting osteoclast activity in bones and inhibiting renal tubular cell reabsorption of Ca²⁺ and phosphate leading to marked hypocalcemia^[3].

Calcitonin/CALCA Protein (Human) protects against calcium loss from the skeleton by the direct inhibition of bone resorption and the indirect effect through the inhibition of the release of prolactin from the pituitary gland during periods of calcium mobilization in skeleton-preserving actions^[6,7].

Calcitonin/CALCA Protein (Human) lowers blood calcium and phosphorus mainly through its inhibition of osteoclasts and prevents postprandial hypercalcemia resulting from absorption of Ca²⁺^[8].

REFERENCES

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Caution: Product has not been fully validated for medical applications. For research use only.

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