PRODUCT INFORMATION

Raptin (human, recombinant)

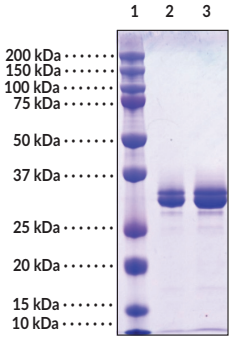
Item No. 45023

Overview and Properties

Synonyms:	Raptin Hormone Derived From RCN2, C-terminus Cleaved From Reticulocalbin-2 (RCN2) (25-246)
Source:	Recombinant human C-terminal His-tagged Raptin expressed in mammalian cells
Amino Acids:	25-246
Uniprot No.:	Q14257
Molecular Weight:	27.7 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	1X PBS, pH 7.5, with 10% glycerol
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Raptin (2 µg)
Lane 3: Raptin (4 µg)

SDS-PAGE Analysis of Raptin.

This protein has a calculated molecular weight of 27.7 kDa. It has an apparent molecular weight of approximately 30 kDa and appears as a double band by SDS-PAGE under reducing conditions due to post-translational modifications, such as methylation, phosphorylation, and deamidation, as confirmed by mass spectrometry.

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Description

Raptin is a sleep-inducible hormone and C-terminal fragment of reticulocalbin-2 (RCN2) with roles in food intake and obesity prevention in animal models.[1] RCN2 is predominantly expressed by neurons in the paraventricular nucleus (PVN) of the hypothalamus, and this expression is increased during the sleep phase compared to the active phase in mice. During the sleep period, activation of suprachiasmatic nucleus arginine vasopressin neurons (SCNAVPs) induces kallikrein-mediated Raptin cleavage from RCN2 and its secretion, an effect that is decreased by sleep deficiency. Raptin binds to metabotropic glutamate receptor 3 (mGluR3) in hypothalamic and gastric neurons to reduce appetite and gastric emptying, respectively. PVN-specific knockout of *Rcn2* increases food intake and decreases energy expenditure in mice fed a high-fat diet. Plasma levels of Raptin are negatively correlated with sleep deficiency and obesity in humans, and a heterozygous *RCN2* nonsense variant is associated with lower Raptin levels during the sleep phase and hyperphagia. Cayman's Raptin (human, recombinant) protein can be used for binding assay, ELISA, and Western blot (WB) applications.

Reference

1. Xie, L.Q., Hu, B., Lu, R.B., *et al*. Raptin, a sleep-induced hypothalamic hormone, suppresses appetite and obesity. *Cell Res*. **35(3)**, 165-185 (2025).

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