

PRODUCT INFORMATION



Cbl-c (human, recombinant)

Item No. 45177

Overview and Properties

Synonyms: Casitas B-lineage Lymphoma Proto-oncogene C, CBLC, Cbl-3, Cbl Proto-oncogene C, Cbl-SL, RNF57, RING Finger Protein 57, E3 Ubiquitin-protein Ligase Cbl-c

Source: Active recombinant human Cbl-c expressed in insect cells

Amino Acids: 2-474 (full length)

Uniprot No.: Q9ULV8

Molecular Weight: 52.4 kDa

Storage: -80°C (as supplied); avoid repeated freeze/thaw cycles

Stability: 1 year

Purity: ≥90% estimated by SDS-PAGE

Supplied in: 50 mM Tris-HCl, pH 7.5, with 200 mM sodium chloride and 20% glycerol

Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay

Protein Concentration: *batch specific* mg/ml

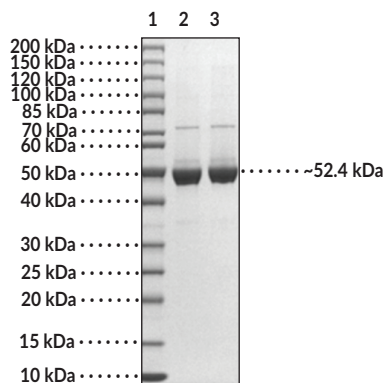
Activity: *batch specific* U/ml

Specific Activity: *batch specific* U/mg

Special Conditions: Rapid thaw with running water.

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

Image



Lane 1: MW Markers
Lane 2: Cbl-c (2 μg, reduced)
Lane 3: Cbl-c (2 μg, non-reduced)

SDS-PAGE Analysis of Cbl-c.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Casitas B-lineage lymphoma proto-oncogene C (Cbl-c) is a member of the Cbl RING-type E3 ubiquitin ligase family.¹ It is composed of an N-terminal tyrosine kinase-binding domain, which contains a helix bundle, an EF hand calcium-binding motif, and a variant Src homology 2 (SH2) domain, a linker region, a RING finger domain, and a proline-rich region.^{2,3} Cbl-c is autoinhibited by its EF hand and SH2 domain but is activated following Tyr341 phosphorylation by Src.² It is expressed in colon, small intestine, pancreas, placenta, liver, kidney, and prostate.³ Cbl-c is involved in the negative regulation of receptor tyrosine kinases, including EGFR and Fyn.^{1,3} Intratumoral levels of Cbl-c are increased in patients with colorectal cancer and loss-of-function mutations in *CBLC* are associated with several cancers.^{4,5} Cayman's Cbl-c (human, recombinant) protein can be used for enzyme activity assays, structural biology, and biophysical applications and has a calculated molecular weight of 52.4 kDa.

References

1. Tang, R., Langdon, W.Y., and Zhang, J. Negative regulation of receptor tyrosine kinases by ubiquitination: Key roles of the Cbl family of E3 ubiquitin ligases. *Front. Endocrinol. (Lausanne)* **13**, 971162 (2022).
2. Ryan, P.E., Sivadasan-Nair, N., Nau, M.M., et al. The N terminus of Cbl-c regulates ubiquitin ligase activity by modulating affinity for the ubiquitin-conjugating enzyme. *J. Biol. Chem.* **285(31)**, 23687-23698
3. Kim, M., Tezuka, T., Suziki, Y., et al. Molecular cloning and characterization of a novel *cbl*-family gene, *cbl-c*. *Gene* **239(1)**, 145-154 (1999).
4. Li, Z., Yan, G., Yang, M., et al. CBLC promotes the development of colorectal cancer by promoting ABI1 degradation to activate the ERK signaling pathway. *Transl. Oncol.* **45**, 101992 (2024).
5. Daniels, S.R., Liyasova, M., Kales, S.C., et al. Loss of function Cbl-c mutations in solid tumors. *PLoS One* **14(7)**, e0219143 (2019).

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