

PRODUCT INFORMATION



BIRC7 (human, recombinant)

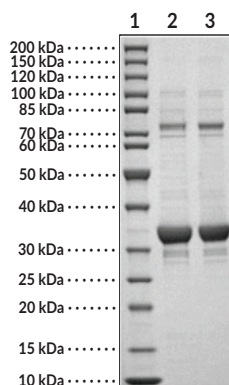
Item No. 45173

Overview and Properties

Synonyms:	Baculoviral IAP Repeat-containing Protein 7, Kidney Inhibitor of Apoptosis Protein, KIAP, Livin, Melanoma Inhibitor of Apoptosis Protein, ML-IAP, RING Finger Protein 50, RING-type E3 Ubiquitin Transferase BIRC7, RNF50
Source:	Active recombinant human BIRC7 expressed in <i>E. coli</i>
Amino Acids:	2-298 (full length)
Uniprot No.:	Q96CA5
Molecular Weight:	33 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90%
Supplied in:	50 mM Tris-HCl pH 7.5, with 1 mM DTT, 200 mM sodium chloride and 20% glycerol
Endotoxin Testing:	<1 EU per µg of the protein
Protein Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg

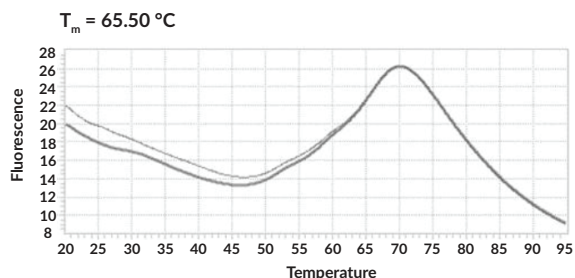
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: BIRC7 (2 µg) (reduced)
Lane 3: BIRC7 (2 µg) (non-reduced)

SDS-PAGE Analysis of BIRC7. This protein has a calculated molecular weight of 33 kDa.



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.

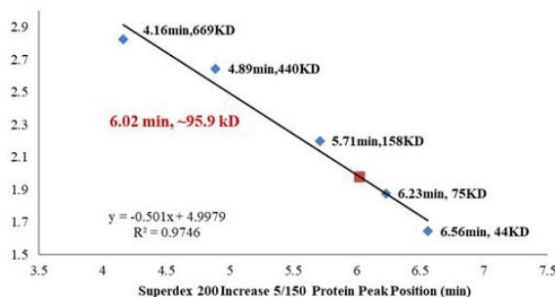
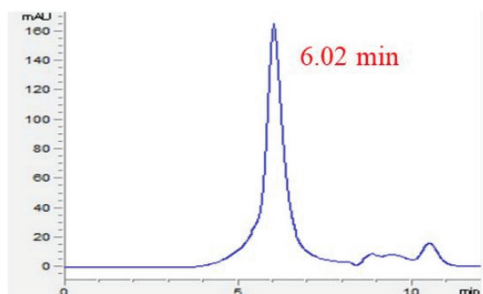
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Images Cont.

Analytical SEC



Lane 1: MW Markers

Lane 2: Bodipy-Ub + UBE1 + UbcH5b + BIRC7 with ATP

Lane 3: Bodipy-Ub + UBE1 + UbcH5b + BIRC7 without ATP

Lane 4: Bodipy-Ub + UBE1 + UbcH5b + with ATP

Gel based ligase assay. The ubiquitin conjugating activity of Livin was validated through its ability to catalyse the generation of polyubiquitin chains in the presence of the E1 activating enzyme UBE1, the E2 conjugating enzyme UbcH5b and Bodipy-ubiquitin. Incubation of BIRC7 for 60 minutes at 37°C in the presence of Bodipy-ubiquitin, UBE1, UbcH5b and ATP (Lane 2) was compared alongside two control reactions with either ATP (Lane 3) or BIRC7 (Lane 4) excluded from the reaction. Ubiquitin conjugates were identified by the migration of the Bodipy-ubiquitin band and these were observed only in the presence of ATP and BIRC7.

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Description

Baculoviral IAP repeat-containing protein 7 (BIRC7) is an E3 ubiquitin ligase and member of the inhibitor of apoptosis (IAP) protein family with roles in the regulation of apoptotic cell death.¹⁻³ It is composed of a single BIR domain and a C-terminal RING domain with E3 ubiquitin ligase activity.¹ BIRC7 has low or undetectable expression in differentiated adult tissues but is expressed at high levels in spleen, lymph nodes, developing embryonic tissues, and placenta and exhibits isoform-specific cellular localization. Full-length BIRC7 localizes to the cytoplasm and inhibits apoptosis, while truncated BIRC7 isoforms accumulate in the Golgi and have pro-apoptotic functions. *BIRC7* is overexpressed in papillary thyroid carcinoma compared with non-cancerous thyroid tissue and positively correlates with metastasis.² BIRC7 expression is negatively correlated with event-free survival and overall survival in patients with acute lymphocytic leukemia (ALL) and acute myeloid leukemia (AML).³ Cayman's BIRC7 (human, recombinant) protein can be used for enzyme activity and Western blot (WB) applications and has a calculated molecular weight of 33 kDa.

References

1. Rigato, D.B., Branco, P.C., Silva, C.S.M.R., *et al.* BIRC7 (baculoviral IAP repeat containing 7). *Atlas Genet. Cytogenet. Oncol. Haematol.* **24(6)**, 234-247 (2020).
2. Liu, K., Yu, Q., Li, H., *et al.* BIRC7 promotes epithelial-mesenchymal transition and metastasis in papillary thyroid carcinoma through restraining autophagy. *Am. J. Cancer Res.* **10(1)**, 78-94 (2020).
3. El-Mesallamy, H.O., Hegab, H.M., and Kamal, A.M. Expression of inhibitor of apoptosis protein (IAP) livin/BIRC7 in acute leukemia in adults: Correlation with prognostic factors and outcome. *Leuk. Res.* **35(12)**, 1616-1622 (2011).

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