PRODUCT INFORMATION

ARMC5 (human, recombinant)

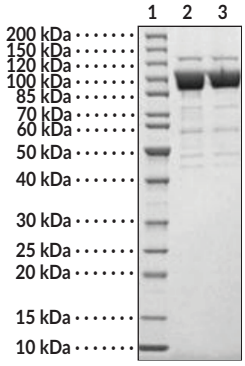
Item No. 45170

Overview and Properties

Synonyms:	Armadillo Repeat-containing Protein 5
Source:	Active recombinant human ARMC5 expressed in insect cells
Amino Acids:	2-935 (full length)
Uniprot No.:	Q96C12
Molecular Weight:	97.7 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥90%
Supplied in:	50 mM Tris-HCl (pH 7.5), with 200 mM sodium chloride, 20% glycerol, and 1 mM DTT
Endotoxin Testing:	<1.0 EU per µg of the protein
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg

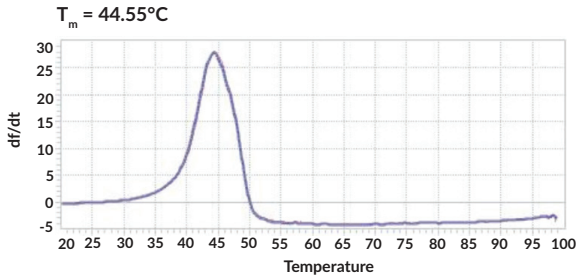
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: ARMC5 (2 µg) (reduced)
Lane 3: ARMC5 (2 µg) (non-reduced)

SDS-PAGE Analysis of ARMC5. This protein has a calculated molecular weight of 97.7 kDa.



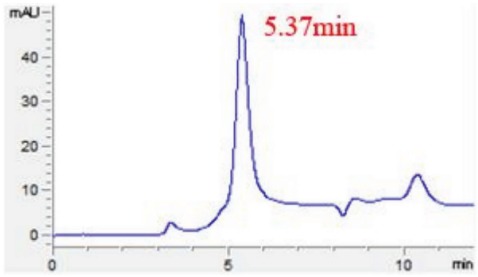
Melting profile of the purified protein.

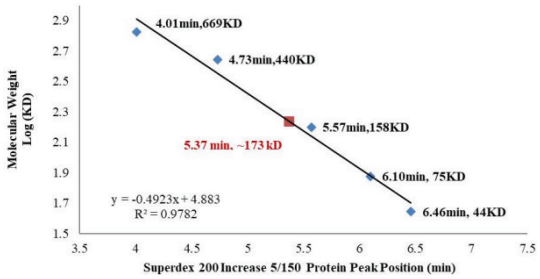
CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

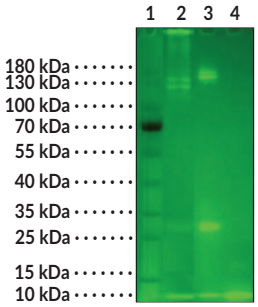
PRODUCT INFORMATION

Images Cont.

Analytical SEC







Lane 1: MW Markers
Lane 2: BODIPY-Ub + UBE1 + UbcH5b + ARMC5 with ATP
Lane 3: BODIPY-Ub + UBE1 + UbcH5b with ATP
Lane 4: BODIPY-Ub + UBE1 + UbcH5b without ATP

Gel-based Ligase Assay. The ubiquitin conjugating activity of ARMC5 was validated through its ability to catalyze the generation of polyubiquitin chains in the presence of the E1 activating enzyme UBE1, the E2 conjugating enzyme UbcH5b and BODIPY-ubiquitin. Incubation of ARMC5 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 ARMC5 (Lane 3) or ARMC5 with ATP (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 ARMC5.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

Armadillo repeat-containing protein 5 (ARMC5) is a member of the armadillo (ARM) repeat containing family.[1] It is composed of an N-terminal ARM repeat domain and C-terminal BTB/POZ domain that each act as scaffolds for protein-protein interactions. ARMC5 is ubiquitously expressed, localizes to the cytoplasm, and undergoes alternative splicing.[1,2] It interacts with cullin 3 *via* the BTB domain to form an E3 ligase complex that ubiquitinates proteins such as sterol regulatory element binding protein (SREBP) and several RNA polymerase II subunits, including DNA-directed RNA polymerase II subunit (RPB1).[3-5] ARMC5 is involved in T cell proliferation and differentiation, lung morphogenesis, adrenal cortex and neural tube development, and tumor suppression.[1,4] Mutations in *ARMC5* are associated with primary bilateral macronodular adrenal hyperplasia (PBMAH).[5] Cayman's ARMC5 (human, recombinant) protein can be used for enzyme activity assays and has a calculated molecular weight of 97.7 kDa.

References

1. Qu, Y., Yang, F., Deng, Y., *et al.* Advancements in the research of the structure, function, and disease-related roles of ARMC5. *Front. Med.* **19(2)**, 185-199 (2025).
2. Berthon, A., Faucz, F., Bertherat, J., *et al.* Analysis of *ARMC5* expression in human tissues. *Mol. Cell. Endocrinol.* **441**, 140-145 (2017).
3. Okuno, Y., Fukuhara, A., and Shimomura, I. The role of oxidative stress, glucocorticoid receptor and ARMC5 in lipid metabolism. *Endocr. J.* **71(12)**, 1097-1101 (2024).
4. Luo, H., Lao, L., Au, K.S., *et al.* ARMC5 controls the degradation of most Pol II subunits, and ARMC5 mutation increases neural tube defect risks in mice and humans. *Genome Biol.* **25(1)**, 19 (2024).
5. Lao, L., Bourdeau, I., Gagliardi, L., *et al.* ARMC5 is part of an RPB1-specific ubiquitin ligase implicated in adrenal hyperplasia. *Nucleic Acids Res.* **50(11)**, 6343-6367 (2022).
6. Yu, L., Zhang, J., Guo, X., *et al. ARMC5* mutations in familial and sporadic primary bilateral macronodular adrenal hyperplasia. *PLoS One* **13(1)**, e0191602 (2018).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM