

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
25 August 2022 (25.08.2022)



(10) International Publication Number  
**WO 2022/175549 A1**

- (51) **International Patent Classification:**  
C12N 9/10 (2006.01) C12N 15/62 (2006.01)
- (21) **International Application Number:**  
PCT/EP2022/054370
- (22) **International Filing Date:**  
22 February 2022 (22.02.2022)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**  
2102471.6 22 February 2021 (22.02.2021) GB
- (71) **Applicant: UNITED KINGDOM RESEARCH AND INNOVATION** [GB/GB]; Polaris House North Star Avenue, Swindon SN2 1FL (GB).
- (72) **Inventors: KISS, Leo;** c/o United Kingdom Research and Innovation, Polaris House North Star Avenue, Swindon SN2 1FL (GB). **CLIFT, Dean;** c/o United Kingdom Research and Innovation, Polaris House North Star Avenue, Swindon SN2 1FL (GB). **LUPTAK, Jakub;** c/o United Kingdom Research and Innovation, Polaris House North Star Avenue, Swindon SN2 1FL (GB). **JAMES, Leo;** c/o United Kingdom Research and Innovation, Polaris House North Star Avenue, Swindon SN2 1FL (GB).
- (74) **Agent: CALLAGHAN, Dayle;** Kilburn & Strode LLP, Lacon London, 84 Theobalds Road, London WC1X 8NL (GB).
- (81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.
- (84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(54) **Title:** FUSION PROTEINS COMPRISING TWO RING DOMAINS

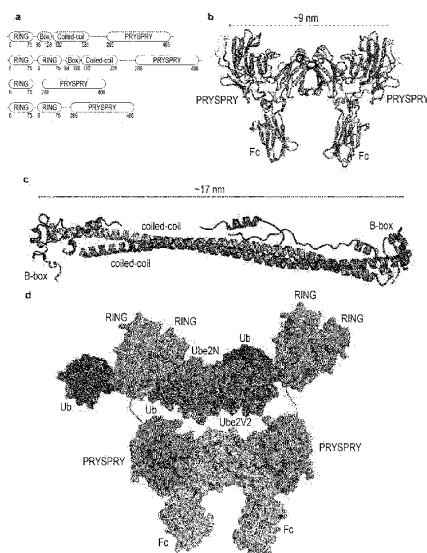


Figure 7

(57) **Abstract:** The present invention relates to fusion proteins comprising at least two RING domains and a protein targeting domain, and nucleic acid constructs encoding the same suitable for use for protein degradation in cells. The present invention also relates to compositions comprising these fusion proteins and nucleic acids, and the use of the fusion proteins and nucleic acid constructs in therapy.

WO 2022/175549 A1

[Continued on next page]

**Published:**

- *with international search report (Art. 21(3))*
- *with sequence listing part of description (Rule 5.2(a))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*