

Title (en)
CELL SURFACE DISPLAY OF PROTEINS

Title (de)
ZELLOBERFLÄCHENPRÄSENTATION VON PROTEINEN

Title (fr)
PRÉSENTATION DE PROTÉINES SUR LA SURFACE CELLULAIRE

Publication
EP 2245160 A4 20110330 (EN)

Application
EP 09703905 A 20090121

Priority
• IB 2009000086 W 20090121
• ZA 200800623 A 20080122

Abstract (en)
[origin: WO2009093118A1] A yeast cell surface display system is described comprising a scaffoldin protein from Clostridium which includes at least one cohesin domain capable of binding to a dockerin domain, the scaffoldin protein displayable on the surface of the yeast cell, such as S. cerevisiae, and an anchoring protein capable of tethering the scaffoldin protein the yeast cell surface, such as cell wall protein 1 (Cwp 1). Cwp 1 is fused to the C-terminus of the scaffoldin protein and a secretion signal, such as Trichoderma reesei XYN2 is fused to the N-terminus of the chimeric scaffoldin protein. The scaffoldin protein is chimeric and comprises at least one C. cellulolyticum cohesin domain and at least one C. Thermocellum cohesin domain. The invention also includes a vector for expression of such a fusion protein.

IPC 8 full level
C12N 15/31 (2006.01); **C07K 19/00** (2006.01); **C12N 1/18** (2006.01); **C12N 1/19** (2006.01); **C12N 15/09** (2006.01); **C12N 15/81** (2006.01); **C12P 21/00** (2006.01)

CPC (source: EP)
C07K 14/33 (2013.01); **C12N 15/62** (2013.01); **C12N 15/625** (2013.01); **C12N 15/81** (2013.01); **C07K 2319/02** (2013.01); **C07K 2319/74** (2013.01)

Citation (search report)
• [Y] WO 9946362 A1 19990916 - IOGEN CORP [CA]
• [XYI] BAYER ET AL: "The potential of cellulases and cellulosomes for cellulosic waste management", CURRENT OPINION IN BIOTECHNOLOGY, LONDON, GB, vol. 18, no. 3, 8 June 2007 (2007-06-08), pages 237 - 245, XP022110187, ISSN: 0958-1669, DOI: 10.1016/J.COPBIO.2007.04.004
• [YD] VAN DER VAART J MARCEL ET AL: "Comparison of cell wall proteins of Saccharomyces cerevisiae as anchors for cell surface expression of heterologous proteins", APPLIED AND ENVIRONMENTAL MICROBIOLOGY, AMERICAN SOCIETY FOR MICROBIOLOGY, US, vol. 63, no. 2, 1 February 1997 (1997-02-01), pages 615 - 620, XP009130380, ISSN: 0099-2240
• [YD] FIEROBE H P ET AL: "Design and production of active cellulosome chimeras. Selective incorporation of dockerin-containing enzymes into defined functional complexes", JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY, INC, US, vol. 276, no. 24, 15 June 2001 (2001-06-15), pages 21257 - 21261, XP002498644, ISSN: 0021-9258, [retrieved on 20010404], DOI: 10.1074/JBC.M102082200
• [YD] FIEROBE H-P ET AL: "Degradation of Cellulose Substrates by Cellulosome Chimeras - SUBSTRATE TARGETING VERSUS PROXIMITY OF ENZYME COMPONENTS", JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY, INC, US, vol. 277, no. 51, 20 December 2002 (2002-12-20), pages 49621 - 49630, XP002613753, ISSN: 0021-9258, [retrieved on 20021022], DOI: 10.1074/JBC.M207672200
• [T] LILLY MARISKA ET AL: "Heterologous expression of a Clostridium minicellulosome in Saccharomyces cerevisiae", FEMS YEAST RESEARCH, vol. 9, no. 8, December 2009 (2009-12-01), pages 1236 - 1249, XP002622026
• See references of WO 2009093118A1

Cited by
CN108676811A; CN111961690A

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2009093118 A1 20090730; WO 2009093118 A9 20091105; EP 2245160 A1 20101103; EP 2245160 A4 20110330

DOCDB simple family (application)
IB 2009000086 W 20090121; EP 09703905 A 20090121