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- (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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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(54) **Title:** FLUOROPHORE-BASED OLIGONUCLEOTIDE PROBES WITH A UNIVERSAL ELEMENT

(57) **Abstract:** There is provided a method of detecting the presence of a target polynucleotide and/or sequence variations within the target polynucleotide using a probe system comprising two independent partner oligonucleotide components wherein the first oligonucleotide has a first and second section, wherein the first section comprises a nucleotide sequence that is labelled with at least one visually detectable label and is not capable of hybridising to the nucleotide sequence of the target polynucleotide; and wherein the second section comprises a nucleotide sequence that is capable of hybridising to a portion of the sequence of the target polynucleotide; and the second oligonucleotide has a first and second section, wherein the first section comprises a nucleotide sequence which is capable of hybridising to a nucleotide sequence of the first section of the first oligonucleotide; and the second section comprises a nucleotide sequence that is capable of hybridising to a nucleotide sequence of the target polynucleotide that is adjacent to the nucleotide sequence that the second section of the first oligonucleotide is capable of hybridising to. There are also provided alternative methods using additional oligonucleotides and probes for use in such methods.

INTERNATIONAL SEARCH REPORT

International application No
PCT/GB2014/000240

A. CLASSIFICATION OF SUBJECT MATTER
INV. C12Q1/68
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2011/063388 A2 (BECTON DICKINSON CO [US]; NADEAU JIM [US]; HELLYER TOBIN [US]) 26 May 2011 (2011-05-26) [0022]-[0025], [0065]-[0068], [0058]-[0061], fig. 1 and 2 -----	1-84
X	WO 2010/017246 A1 (UNIV MARYLAND [US]; SINTIM HERMAN [US]) 11 February 2010 (2010-02-11) abstract, [0005]-[006] and fig. 1 -----	1-84
X	EP 0 552 931 A1 (GEN PROBE INC [US]) 28 July 1993 (1993-07-28) abstract, p. 2, l. 21-46, fig. 1a,b and Fig 9a,b ----- -/--	1-84

Further documents are listed in the continuation of Box C.

See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search 26 January 2015	Date of mailing of the international search report 03/02/2015
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Lapopin, Laurence
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International application No
PCT/GB2014/000240

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2007/010268 A2 (LGC LTD [GB]; MCDOWELL DAVID GORDON [GB]; FRENCH DAVID JOHN [GB]) 25 January 2007 (2007-01-25) abstract, Fig. 10 and p.29 -----	2,3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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