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(54) Title: MULTIPLE CONTROLS FOR MOLECULAR GENETIC ANALYSES

(57) Abstract: A method for constructing multiple nucleic acid sequences for use as positive controls in a genetic test is described. Compositions according to the invention including multiple nucleic acid sequences constructed as described are the optimal controls for simultaneously testing multiple variable nucleic acid sequences at one or more DNA or RNA sites in a subject or subjects. Sequences according to the invention can be prepared chemically and/or by PCR amplification for use directly or after cloning and propagation. At the same time, some sequences can be PCR amplified and/or cloned directly from total genomic DNA obtained from an individual carrying the mutation or variant. Alternatively, the normal sequence to be changed can be cloned and then modified by site directed mutagenesis. Several single mutant or polymorphic sequences that together comprise a panel of multiple control sequences can be added individually to single site tests or mixed together or ligated together by further PCR or by cloning into vectors prior to use in individual or multiplex tests. Controls sequences constructed according to the invention can be used when testing any genetically transmitted nucleic acid sequence by organizations testing quality assurance and by companies maintaining quality control of manufactured genetic test kits.

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International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

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)
IPC 7 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 practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, PAJ, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 834 181 A (SHUBER ANTHONY P) 10 November 1998 (1998-11-10) figures 1-3,11 column 3, line 8 - line 29 column 5, line 21 -column 6, line 24 column 12, line 21 - line 67 claims 1-8 ---	1-30
X	SHUBER A P ET AL: "EFFICIENT 12-MUTATION TESTING IN THE CFTR GENE: A GENERAL MODEL FOR COMPLEX MUTATION ANALYSIS" HUMAN MOLECULAR GENETICS, OXFORD UNIVERSITY PRESS, SURREY, GB, vol. 2, no. 2, 1 February 1993 (1993-02-01), pages 153-158, XP000335860 ISSN: 0964-6906 the whole document ---	1-7, 9-14, 23-27, 29,30
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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Schmitt, C

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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INTERNATIONAL SEARCH REPORT

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Internati[redacted] Application No
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