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(54) Title: NUCLEIC ACID MONOMERS WITH 2'-CHEMICAL MOIETIES

(57) Abstract: The invention provides nucleic acid monomers with a 2'-modification that are useful for the incorporation of dyes or blocking groups. The monomers can be incorporated on the 3'-end of a dual labeled probe to inhibit PCR polymerase extension during PCR. The polymerase is inhibited from extending the probe at the 3'-hydroxyl group when the monomer is present; there is no need to add a chemical moiety to the 3'-hydroxyl or remove the 3'-hydroxyl. The monomers can also be incorporated internally or at the 5'-end of the oligonucleotide. A detectable label, such as a fluorescent or quenching dye, can be incorporated on the 2'-position of such monomers.



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INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 07/64110

A. CLASSIFICATION OF SUBJECT MATTER  
IPC(8): C12P 19/34 (2007.1)  
USPC: 435/91.2  
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)  
USPC: 435/91.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC: 435/91.2, 91.1, 89, 85, 6 (text search)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
PubWEST(USPT,PGPB,EPAB,JPAB); DialogPRO(Engineering); Google Scholar  
Search Terms Used: oligonucleotide, PCR, polymerase chain reaction, amplification, inhibit extension, block primer, kit, fluorophore, probe, cleavage

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- Y	US 2004/0248095 A1 (BEHLKE et al.) 09 December 2004 (09.12.2004); see para [0013]-[0015], [0059]-[0075]; [0090]-[0098]; SEQ ID No. 30 of Example 3; para [0163]-[0165].	1-21, 23-33, 38-61 ----- 22, 34-37, 62
Y	US 2005/0164225 A1 (EWING et al.) 28 July 2005 (28.07.2005); see para [0002], [00066].	22
Y	US 5,880,270 A (BERNINGER et al.) 09 May 1999 (09.05.1999); see col 3, ln 55 to col 4, ln 25.	34-37, 62
Y	US 2005/0112673 A1 (LAIKHTER et al.) 26 May 2005 (26.05.2005); see Example 1, para [0045]-[0046].	37, 62

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"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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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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