



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

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<b>(21) International Application Number:</b> PCT/US98/25656  <b>(22) International Filing Date:</b> 3 December 1998 (03.12.98)  <b>(30) Priority Data:</b> 08/984,922                      4 December 1997 (04.12.97)                      US  <b>(71) Applicant:</b> MEDTRONIC, INC. [US/US]; 7000 Central Avenue Northeast, Minneapolis, MN 55432 (US).  <b>(72) Inventor:</b> KEOGH, James, R.; 1201 Frank Court, Maplewood, MN 55109 (US).  <b>(74) Agents:</b> WOODS, Thomas, F. et al.; Medtronic, Inc. MS301, 7000 Central Avenue Northeast, Minneapolis, MN 55432 (US).	<b>(81) Designated States:</b> European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>  <b>(88) Date of publication of the international search report:</b> 2 September 1999 (02.09.99)	
<b>(54) Title:</b> OXIDATIVE METHOD FOR ATTACHMENT OF GLYCOPROTEINS OR GLYCOPEPTIDES TO SURFACES OF MEDICAL DEVICES  <b>(57) Abstract</b>  A method for making a medical device having at least one glycoprotein and/or glycopeptide immobilized on a substrate surface is provided. The method may include oxidizing 1,2 dihydroxy moieties with a periodate to form an aldehyde-functional material; combining the aldehyde-functional material with an amino-functional material to bond the two materials together through an imine moiety; and reacting the imine moiety with a reducing agent to form a secondary amine. Another method of the present invention may be employed to crosslink glycoproteins and/or glycopeptides immobilized on medical device surfaces. Additionally, one method of the present invention may be employed to crosslink glycoproteins and/or glycopeptides, thereby forming a crosslinked biomaterial or a crosslinked medical device coating.		

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/25656

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 6 A61L27/00 A61L33/00

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 6 A61L

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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	EP 0 826 382 A (MEDTRONIC INC) 4 March 1998 see the whole document ---	1-38
X	US 4 642 242 A (SOLOMON DONALD D ET AL) 10 February 1987  see examples 2,3 ---	1,2, 10-19, 21,22, 30-38
X	US 5 679 659 A (VERHOEVEN MICHEL ET AL) 21 October 1997  see claims see example 1 ---	1,2, 10-19, 21,22, 30-38
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Patent family members are listed in annex.

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 NL - 2280 HV Rijswijk  
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Heck, G

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International Application No

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**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 258 501 A (KOZULIC BRANKO ET AL) 2 November 1993 see claims -----	1-38
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