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[Continued on next page]

(54) Title: INSERTABLE NEURAL PROBE WITH FLEXIBLE STRUCTURE

(57) Abstract: A neural probe (10) is provided for in vivo communication with biologic tissue, including stimulating neurons and/or recording neural electrical activity. The probe (10) may be constructed so that the immune response by the biological tissue in which the device is implanted is reduced over known implantable probes. The probe (10) can be constructed with a tip (16) that has a branched configuration, with electrodes (24) located along each of the branches (20). A biodegradable coating (18) is disposed over at least the tip (16) of the probe (10) to provide the probe (10) with sufficient integrity for insertion into the biological tissue and to degrade after insertion. The biodegradable coating (18) can have an anti-inflammatory drug or other bioagent distributed therein for localized release of the bioagent to further reduce the immune response.

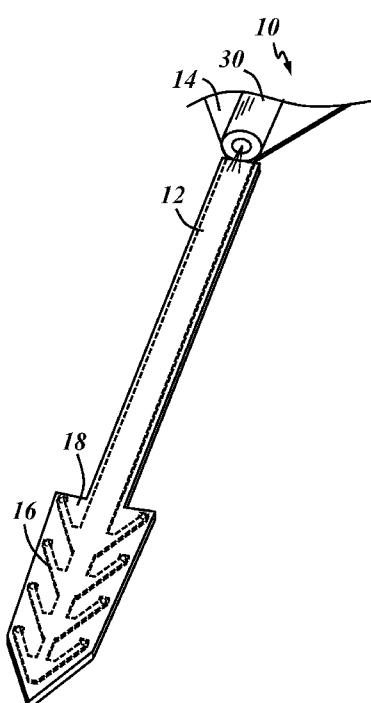


FIG. 2



MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER

A61N 1/05(2006.01)i, A61N 1/36(2006.01)i, A61L 27/54(2006.01)i, A61L 27/58(2006.01)i

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)

A61N 1/05; A61L 25/00; A61B 5/04; A61M 31/00; A61F 2/02; H01R 43/00; A61B 5/02; A61L 27/00; A61N 1/00; A61B 5/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: neural probe, body, shank, tip, electrode, biodegradable, coating, branch.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2010-0331935 A1 (TABADA, PHILLIPE et al.) 30 December 2010 See paragraphs [0009], [0013]–[0014], [0016], [0033], and [0037]; claims 1 and 3–6; and figures 1–4 and 8–10.	1,3–4,14
A		2,5–13,15
Y	US 5,900,245 A (SAWHNEY, AMAPREET S. et al.) 04 May 1999 See col. 2, lines 59–67; col. 12, lines 15–17, 19–21, and 32–40; and col. 21, lines 12–14 and 27–32.	1,3–4,14
A	US 2009-0299167 A1 (SEYMOUR, JOHN P.) 03 December 2009 See paragraphs [0040]–[0042], [0045], and [0054]; claims 1–3 and 7; and figures 2–4.	1–15
A	US 2005-0216072 A1 (MAHADEVAN-JANSEN, ANITA et al.) 29 September 2005 See paragraphs [0007], [0022], and [0065]; claims 1 and 10–11; and figures 1–3.	1–15
A	US 2006-0030833 A1 (HARRIS, CHAD G. et al.) 09 February 2006 See paragraphs [0047], [0054], and [0072]–[0073]; claims 9–13; and figures 9 and 11.	1–15

Further documents are listed in the continuation of Box C.

See patent family annex.

* 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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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 2008-0140195 A1 (SU, HUAN-CHIEH et al.) 12 June 2008 See paragraphs [0011] and [0019]; claims 1-2, and 8; and figures 1A, 1C, and 2A.	1-15

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