FIG. 1A

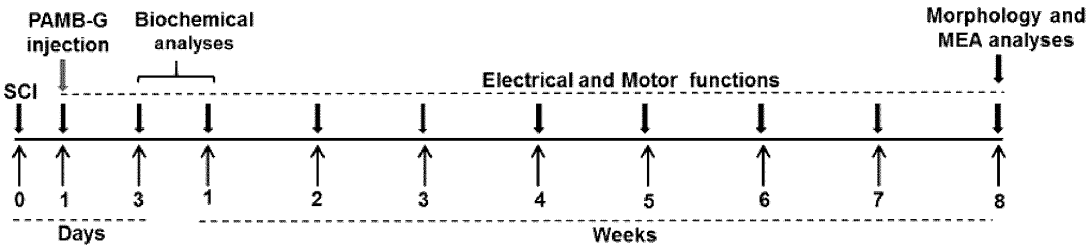

PAMB-G injection
Biochemical analyses
Morphology and MEA analyses
SCI
Electrical and Motor functions
0
1
3
1
2
3
4
5
6
7
8
Days
Weeks

FIG. 1B

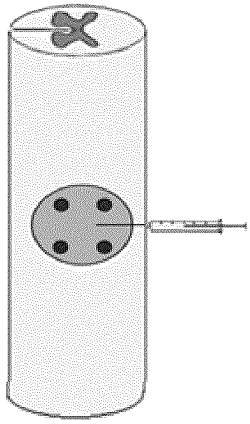


FIG. 1C

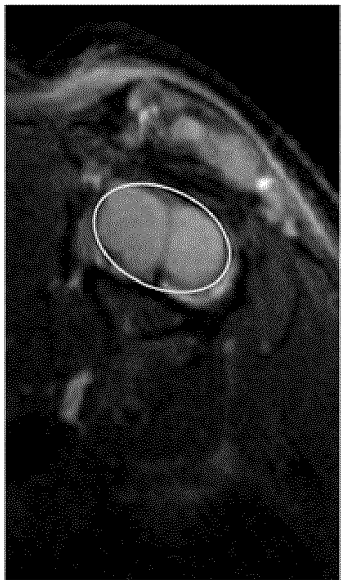


FIG. 1D

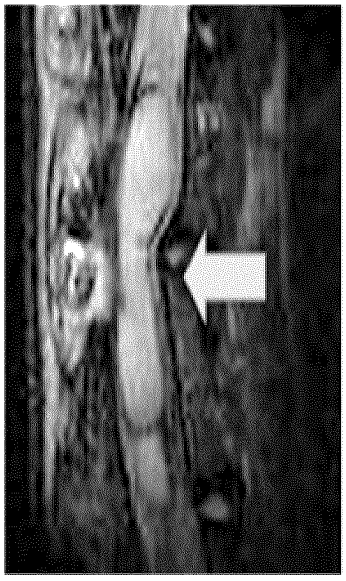


FIG. 2A

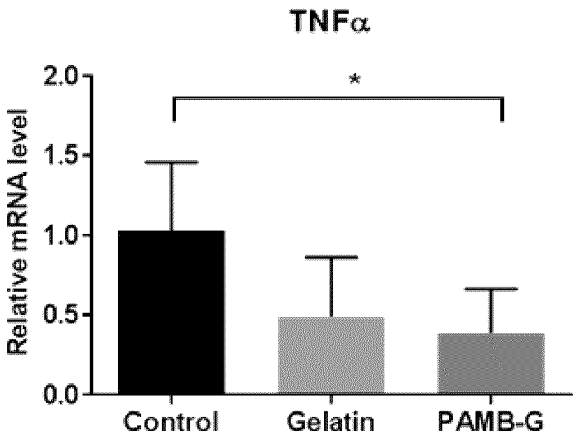

TNFα
Relative mRNA level
2.0
1.5
1.0
0.5
0.0
*
Control
Gelatin
PAMB-G

FIG. 2B

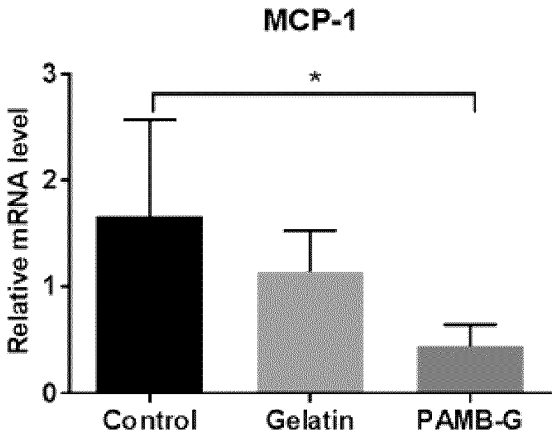

MCP-1
Relative mRNA level
3
2
1
0
*
Control
Gelatin
PAMB-G

FIG. 2C

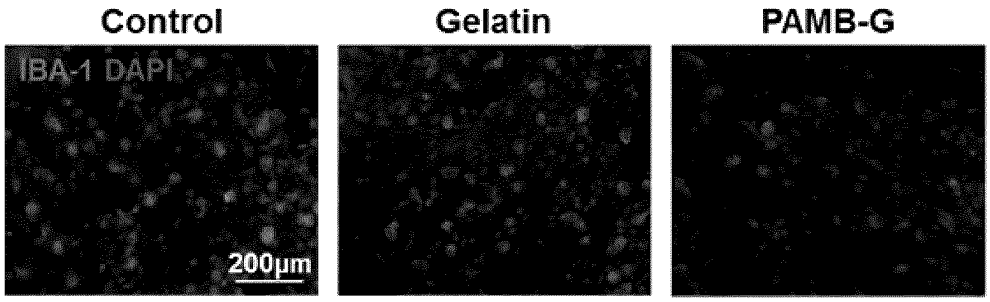

Control
Gelatin
PAMB-G
IBA-1 DAPI
200µm

FIG. 2D

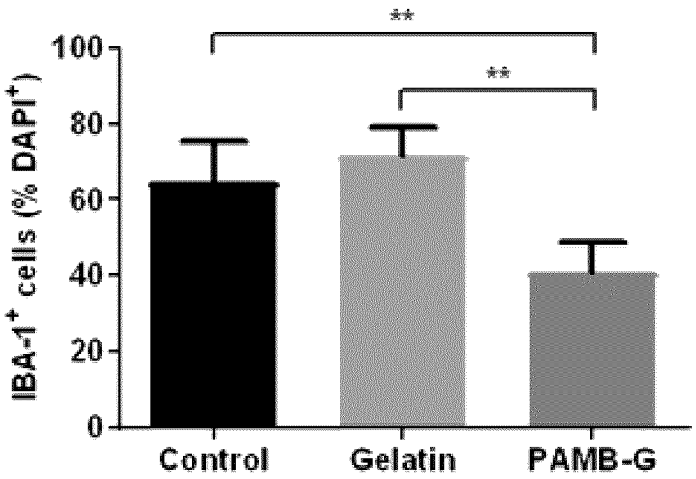

**
**
100
80
60
40
20
0
IBA-1+ cells (% DAPI+)
Control
Gelatin
PAMB-G

FIG. 2E

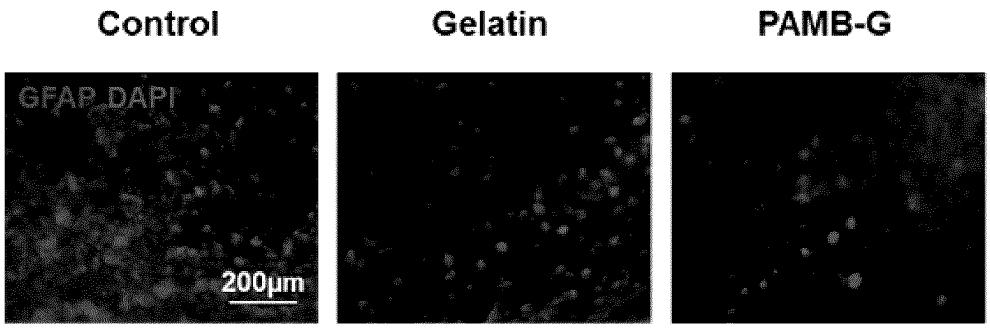

Control
Gelatin
PAMB-G
GFAP DAPI
200µm

FIG. 2F

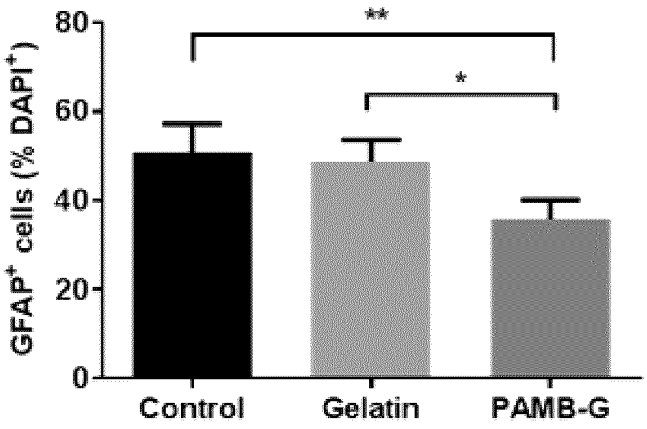

80
60
40
20
0
GFAP+ cells (% DAPI+)
**
*
Control
Gelatin
PAMB-G

FIG. 3A

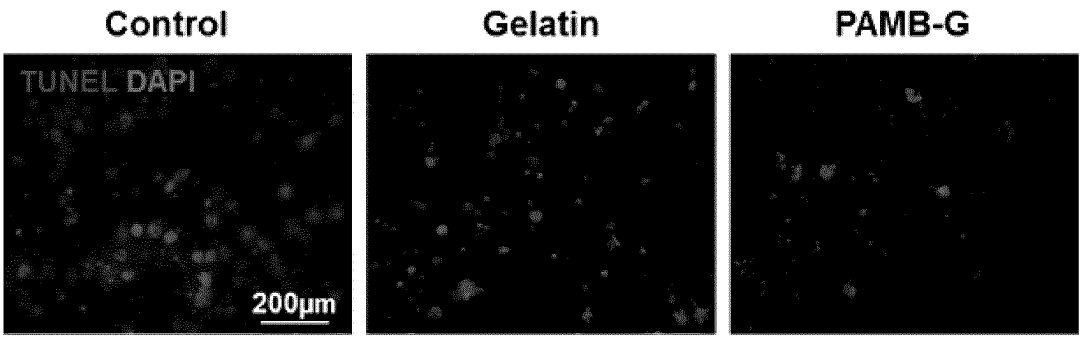

Control
Gelatin
PAMB-G
TUNEL DAPI
200µm

FIG. 3B

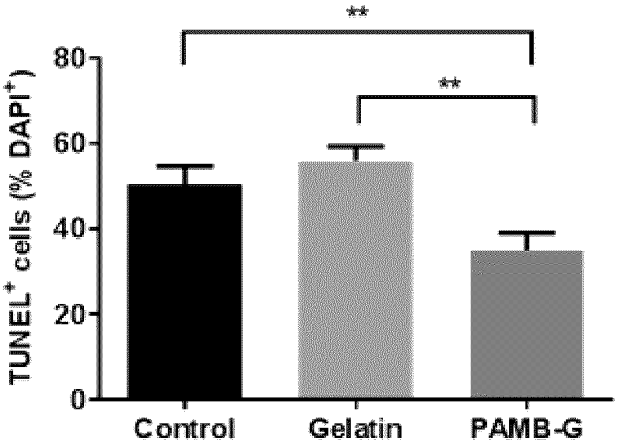

**
**
80
60
40
20
0
TUNEL+ cells (% DAPI+)
Control
Gelatin
PAMB-G

FIG. 3C

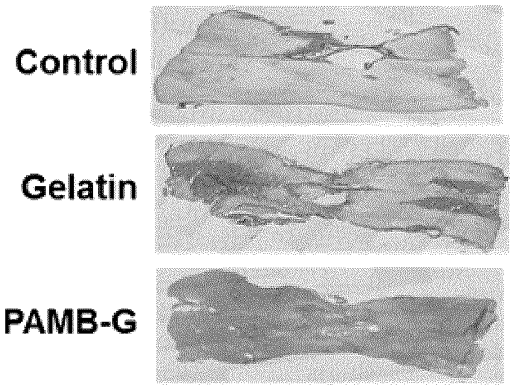

Control
Gelatin
PAMB-G

FIG. 3D

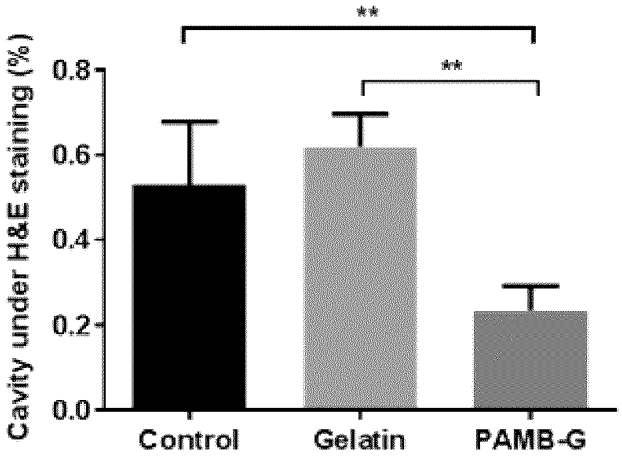

**
**
Cavity under H&E staining (%)
0.8
0.6
0.4
0.2
0.0
Control
Gelatin
PAMB-G

FIG. 3E

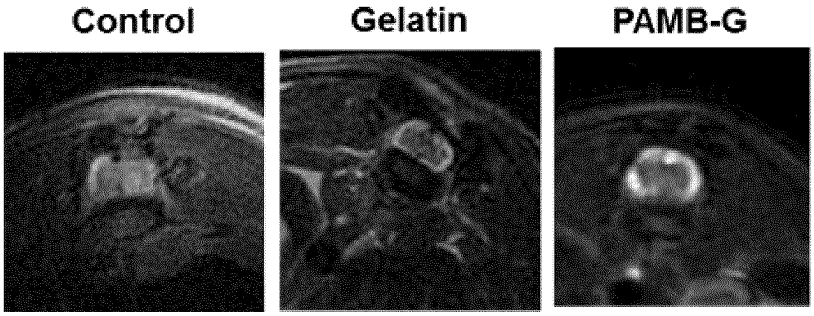

Control
Gelatin
PAMB-G

FIG. 3F

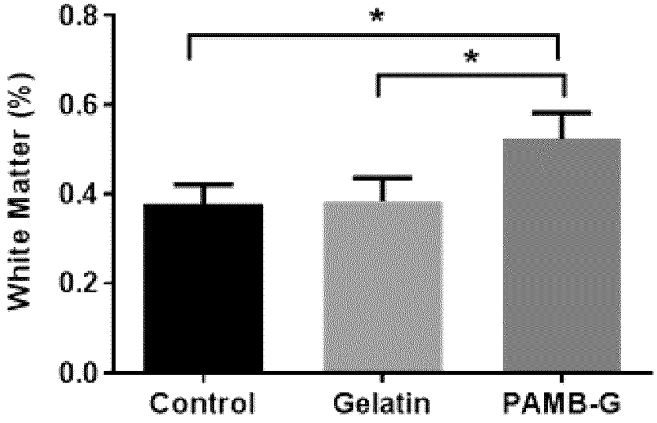

White Matter (%)
0.8
0.6
0.4
0.2
0.0
*
*
Control
Gelatin
PAMB-G

FIG. 4A

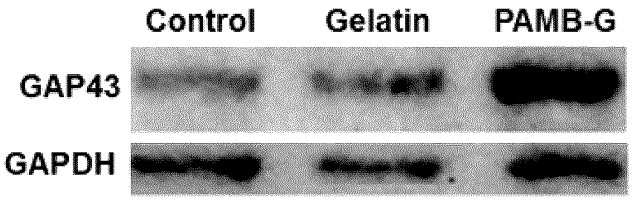

Control
Gelatin
PAMB-G
GAP43
GAPDH

FIG. 4B

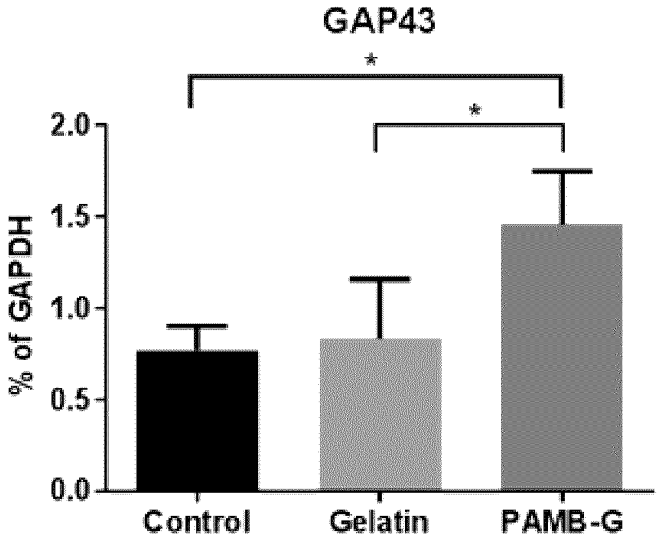

GAP43
*
*
2.0
1.5
1.0
0.5
0.0
% of GAPDH
Control
Gelatin
PAMB-G

FIG. 4C

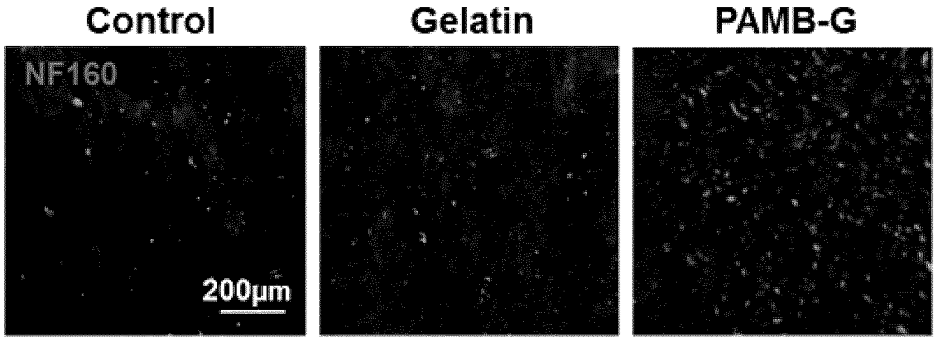

Control
Gelatin
PAMB-G
NF160
200µm

FIG. 4D

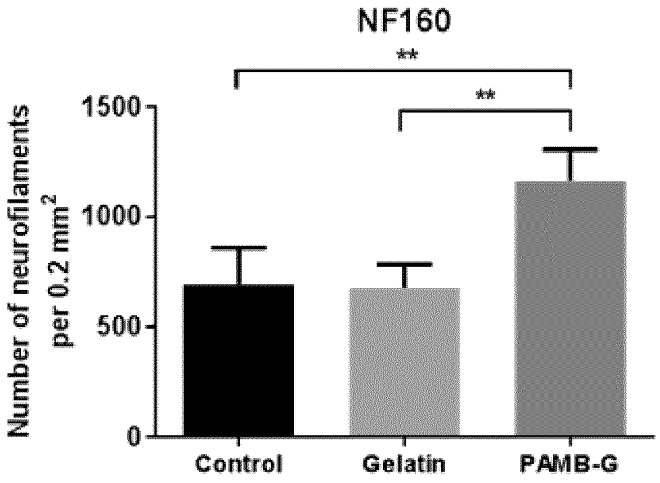

NF160
**
**
Number of neurofilaments per 0.2 mm2
1500
1000
500
0
Control
Gelatin
PAMB-G

FIG. 5A

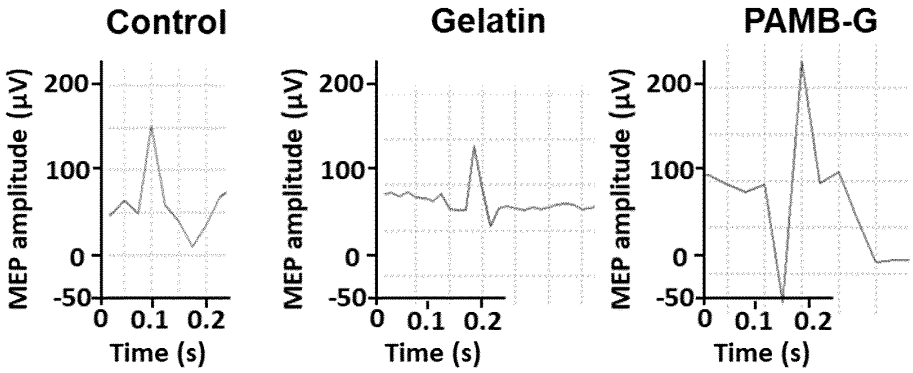

Control
Gelatin
PAMB-G
MEP amplitude (μV)
200
100
0
-50
0 0.1 0.2
Time (s)

FIG. 5B

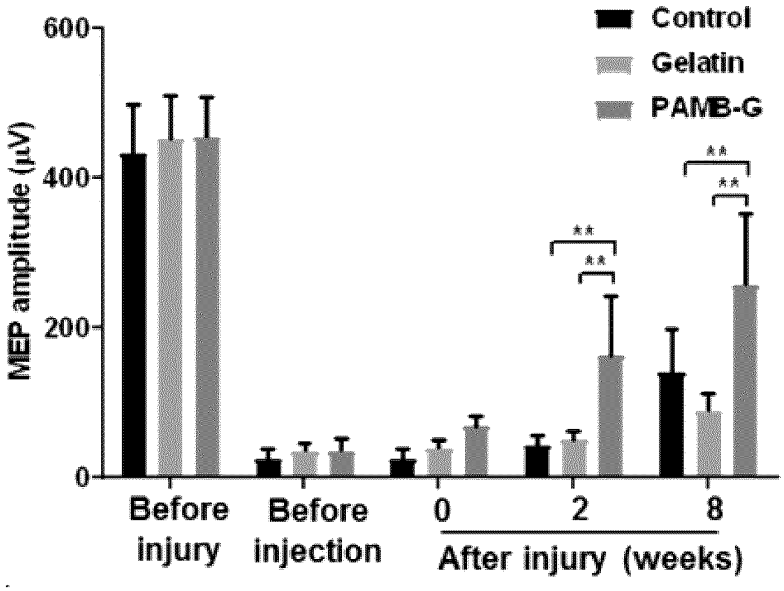

Control
Gelatin
PAMB-G
MEP amplitude (μV)
600
400
200
0
**
**
**
**
Before injury
Before injection
0
2
8
After injury (weeks)

FIG. 5C

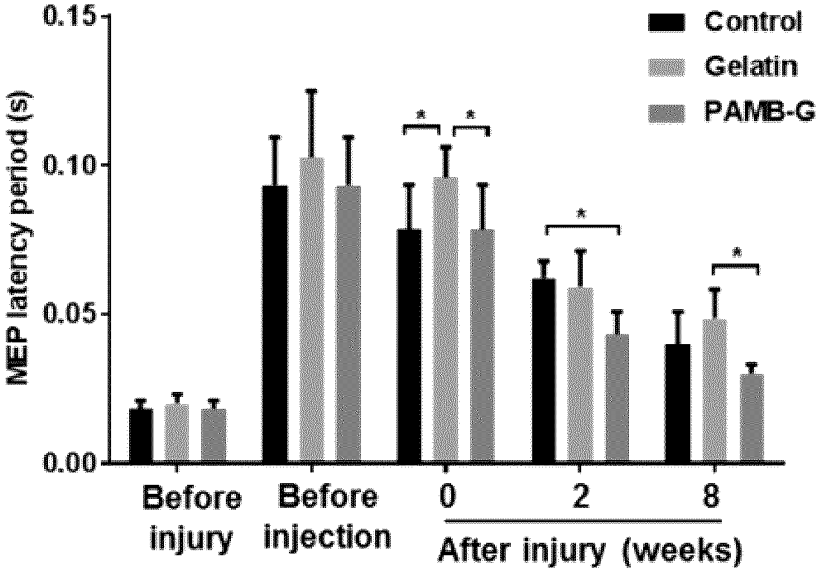

0.15
0.10
0.05
0.00
MEP latency period (s)
Control
Gelatin
PAMB-G
*
*
*
*
Before injury
Before injection
0
2
8
After injury (weeks)

FIG. 5D

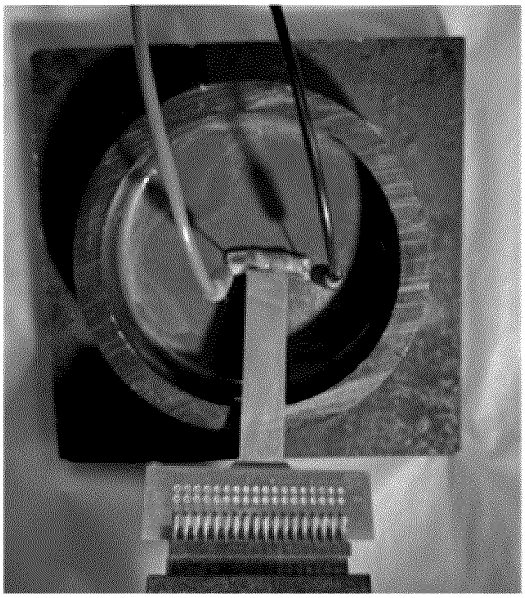


FIG. 5E

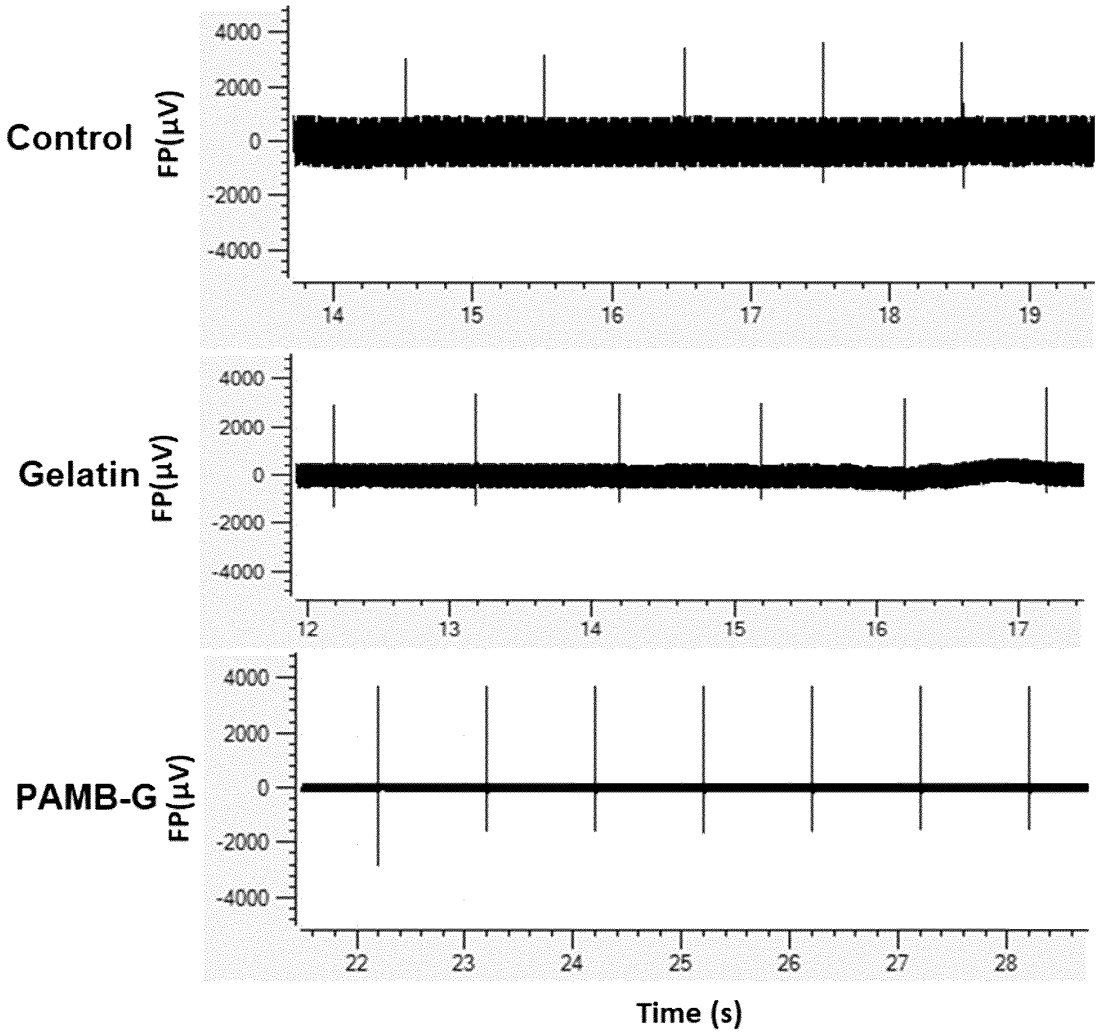

Control
Gelatin
PAMB-G
FP(µV)
4000
2000
0
-2000
-4000
14
15
16
17
18
19
12
13
22
23
24
25
26
27
28
Time (s)

FIG. 5F

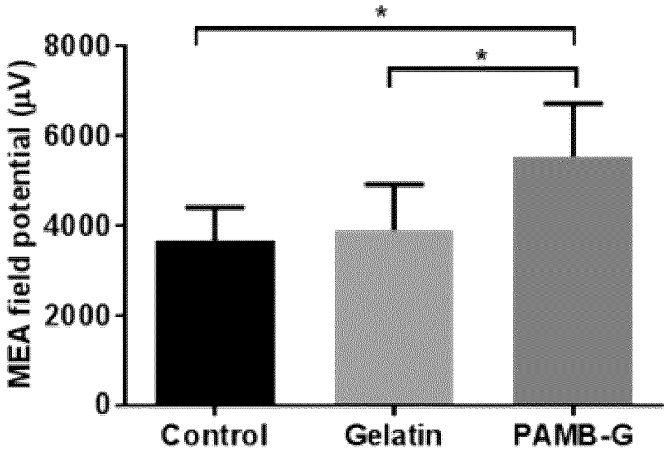

*
*
8000
6000
4000
2000
0
MEA field potential (μV)
Control
Gelatin
PAMB-G

FIG. 6A

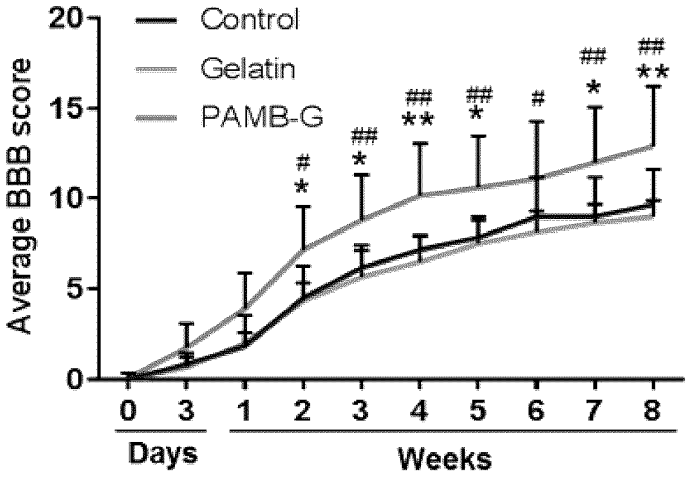

Control
Gelatin
PAMB-G
Average BBB score
20
15
10
5
0
0 3 1 2 3 4 5 6 7 8
Days
Weeks
* ## * ## ** ## * # ## * ## **

FIG. 6B

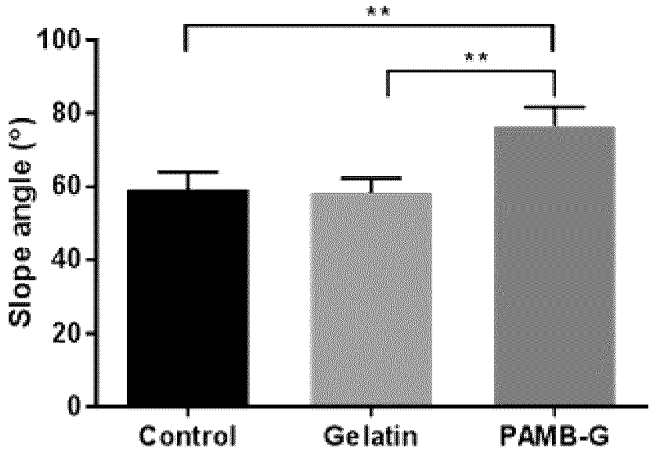

**
**
Slope angle (°)
100
80
60
40
20
0
Control
Gelatin
PAMB-G

FIG. 6C

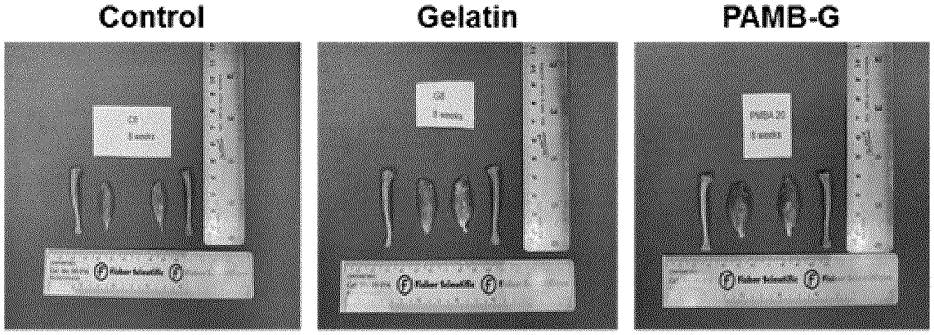

Control
Gelatin
PAMB-G

FIG. 6D

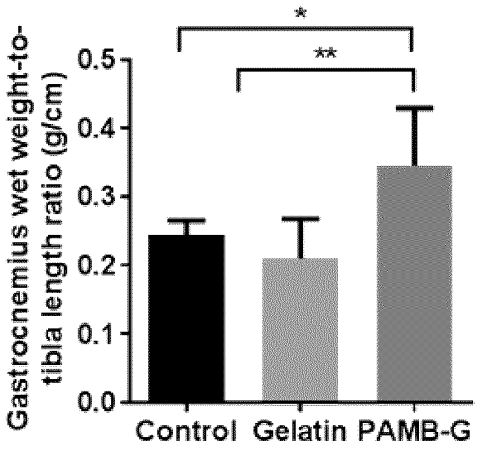
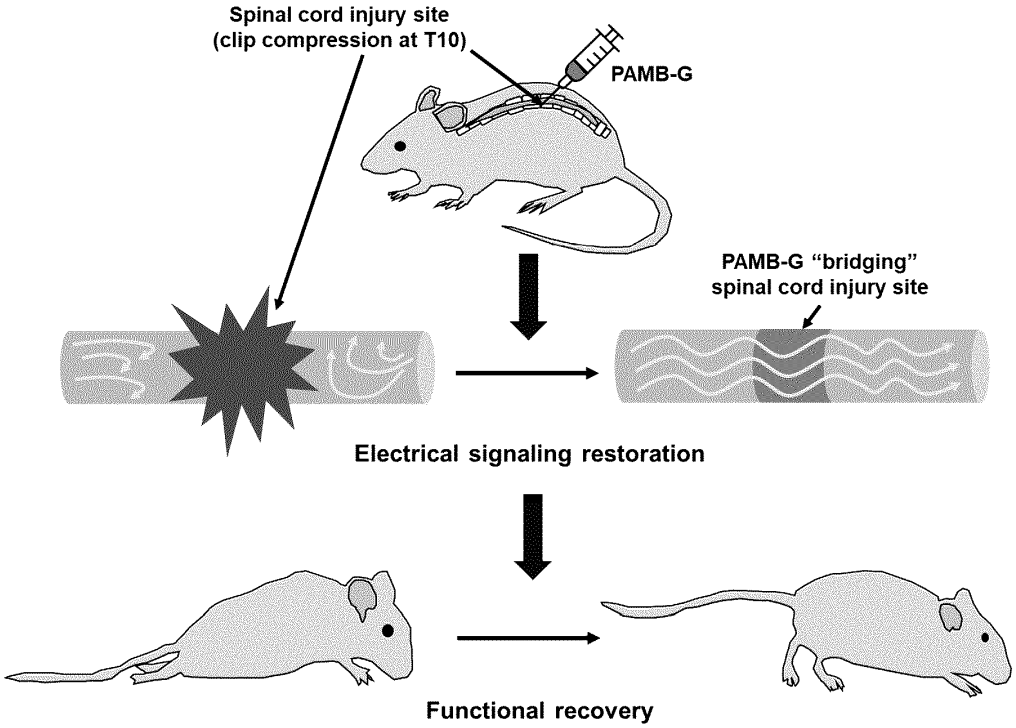

*
**
Gastrocnemius wet weight-to-tibia length ratio (g/cm)
0.5
0.4
0.3
0.2
0.1
0.0
Control
Gelatin
PAMB-G

FIG. 7


Spinal cord injury site
(clip compression at T10)
PAMB-G
PAMB-G "bridging"
spinal cord injury site
Electrical signaling restoration
Functional recovery