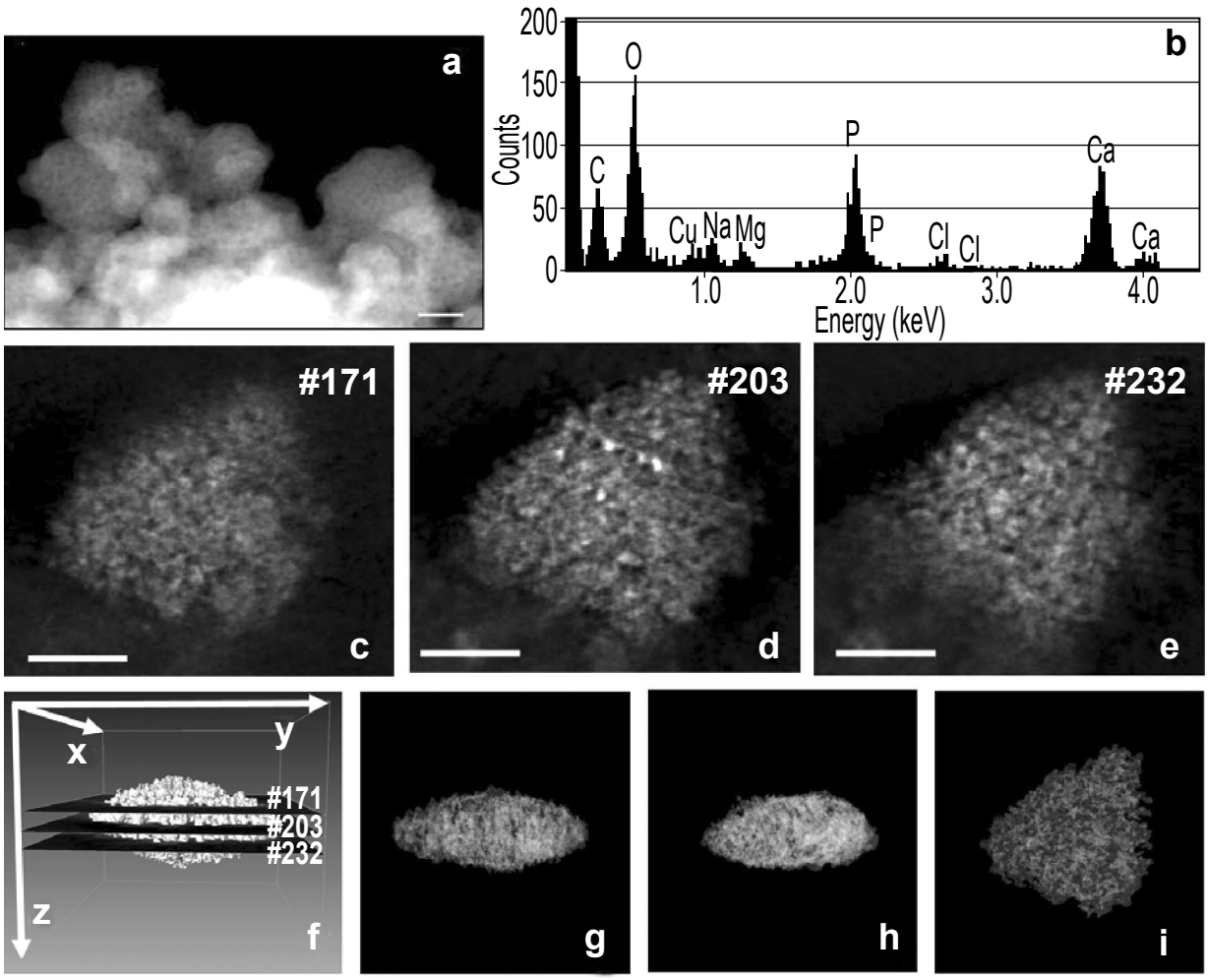

a
b
200
150
100
50
0
Counts
O
C
P
Ca
Cu
Na
Mg
P
Cl
Cl
Ca
1.0
2.0
3.0
4.0
Energy (keV)
#171
c
#203
d
#232
e
x
y
z
#171
#203
#232
f
g
h
i

FIG. 1

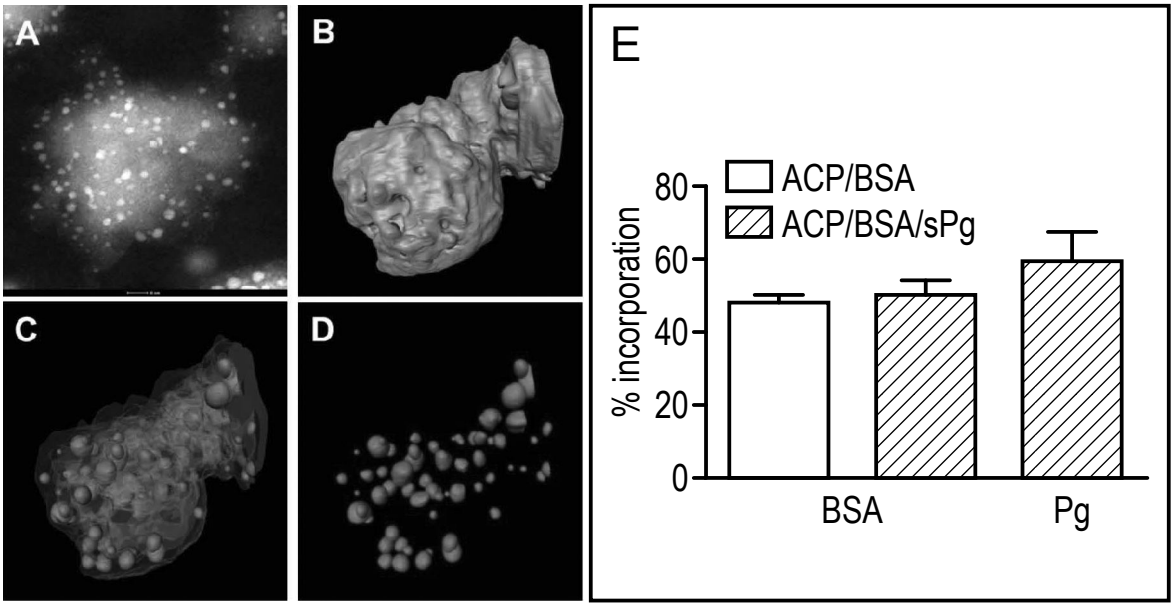

A
B
C
D
E
ACP/BSA
ACP/BSA/sPg
% incorporation
80
60
40
20
0
BSA
Pg

FIG. 2

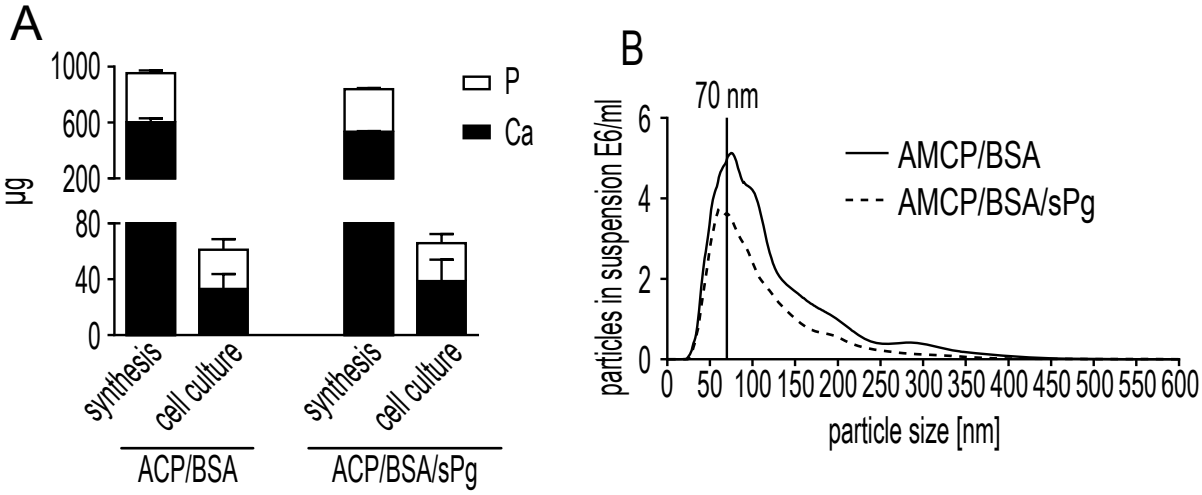

A
1000
600
200
80
40
0
µg
P
Ca
synthesis
cell culture
synthesis
cell culture
ACP/BSA
ACP/BSA/sPg
B
70 nm
6
4
2
0
particles in suspension E6/ml
AMCP/BSA
AMCP/BSA/sPg
0 50 100 150 200 250 300 350 400 450 500 550 600
particle size [nm]

FIG. 3

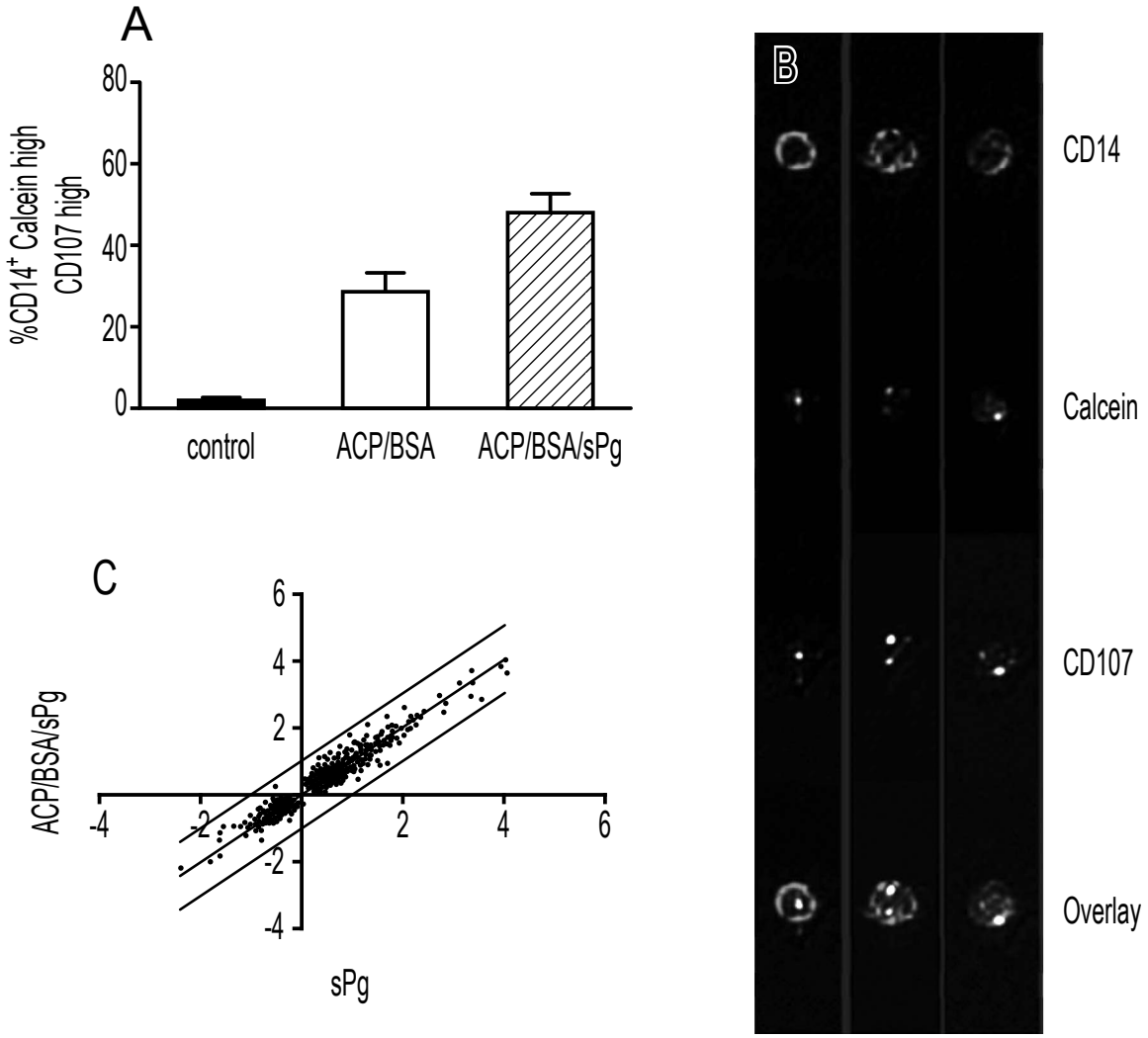
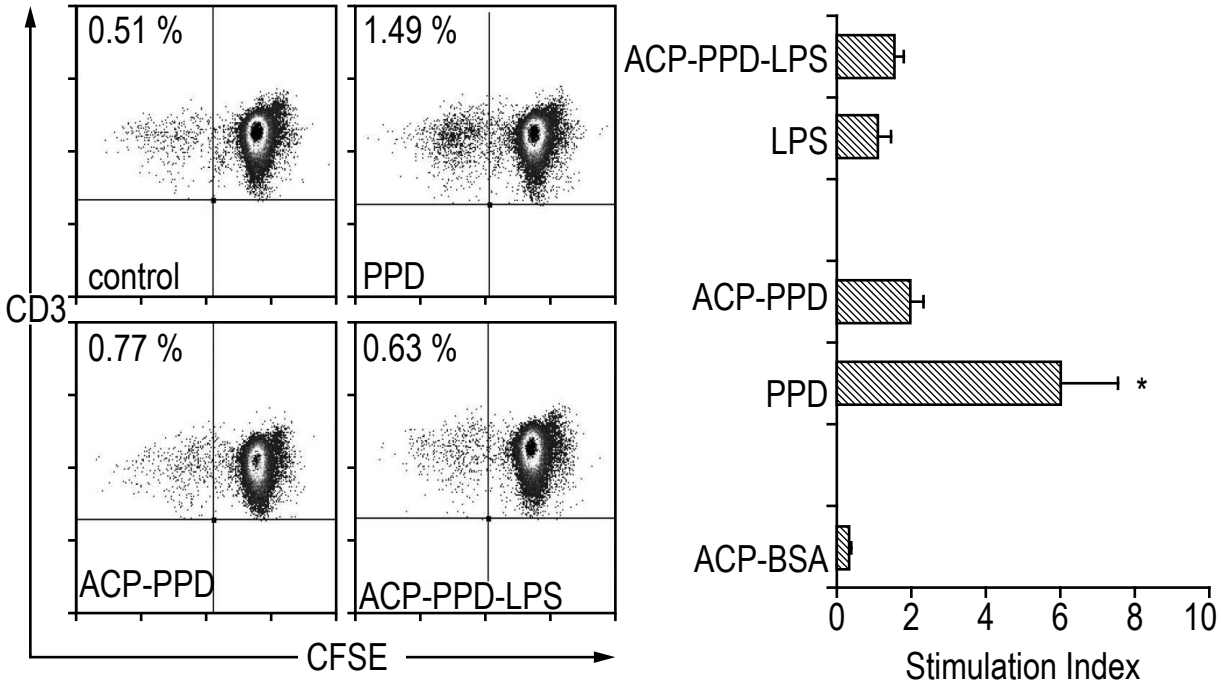

A
80
60
40
20
0
%CD14+ Calcein high
CD107 high
control
ACP/BSA
ACP/BSA/sPg
C
6
4
2
-2
-4
-4
-2
2
4
6
ACP/BSA/sPg
sPg
B
CD14
Calcein
CD107
Overlay

FIG. 4


0.51 %
1.49 %
control
PPD
CD3
0.77 %
0.63 %
ACP-PPD
ACP-PPD-LPS
CFSE
ACP-PPD-LPS
LPS
ACP-PPD
PPD
ACP-BSA
*
0
2
4
6
8
10
Stimulation Index

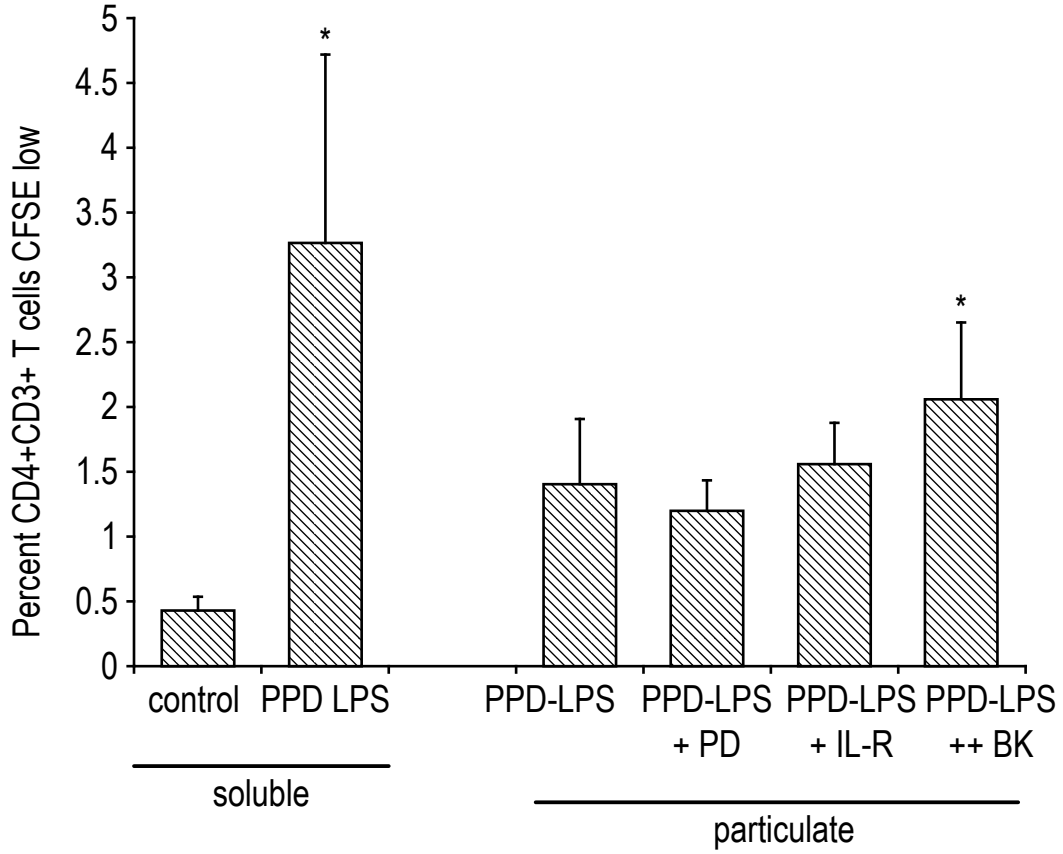

Percent CD4+CD3+ T cells CFSE low
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
*
*
control
PPD LPS
PPD-LPS
PPD-LPS + PD
PPD-LPS + IL-R
PPD-LPS ++ BK
soluble
particulate

FIG. 5

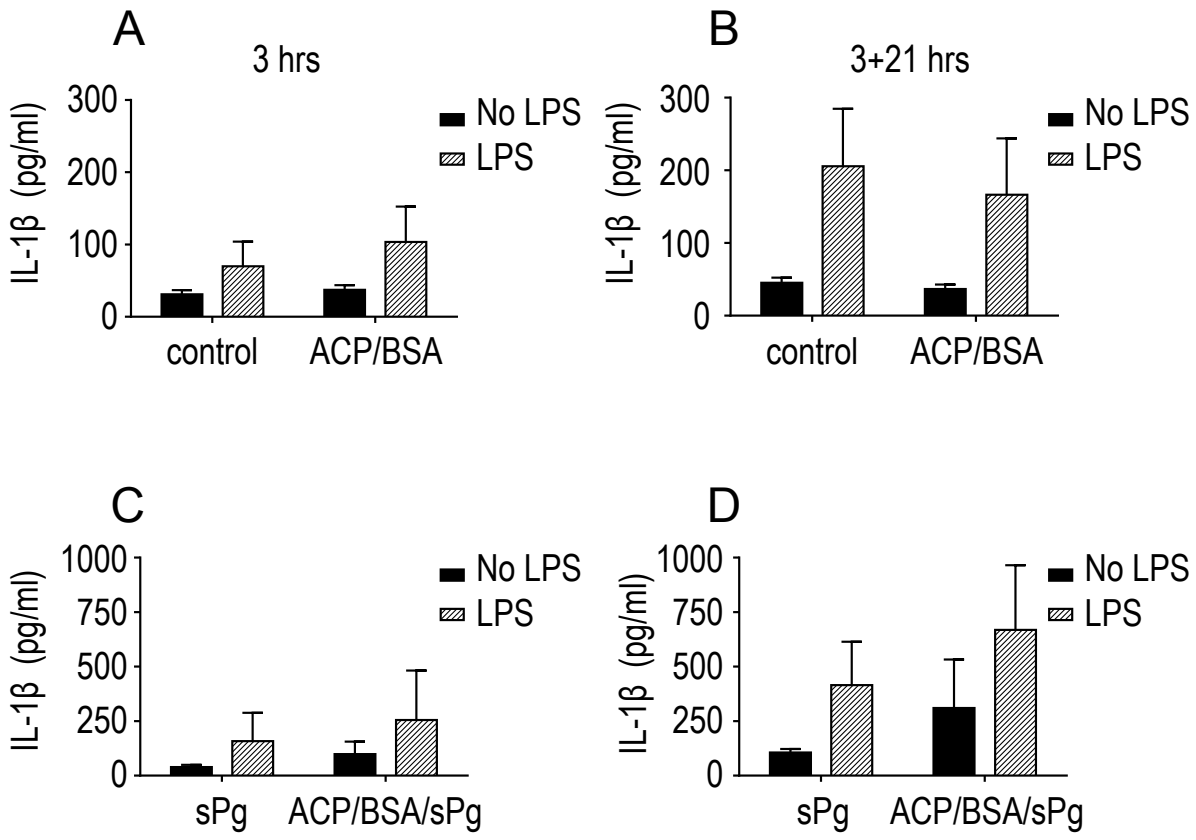

A
3 hrs
IL-1β (pg/ml)
300
200
100
0
No LPS
LPS
control
ACP/BSA
B
3+21 hrs
IL-1β (pg/ml)
300
200
100
0
No LPS
LPS
control
ACP/BSA
C
IL-1β (pg/ml)
1000
750
500
250
0
No LPS
LPS
sPg
ACP/BSA/sPg
D
IL-1β (pg/ml)
1000
750
500
250
0
No LPS
LPS
sPg
ACP/BSA/sPg

FIG. 6

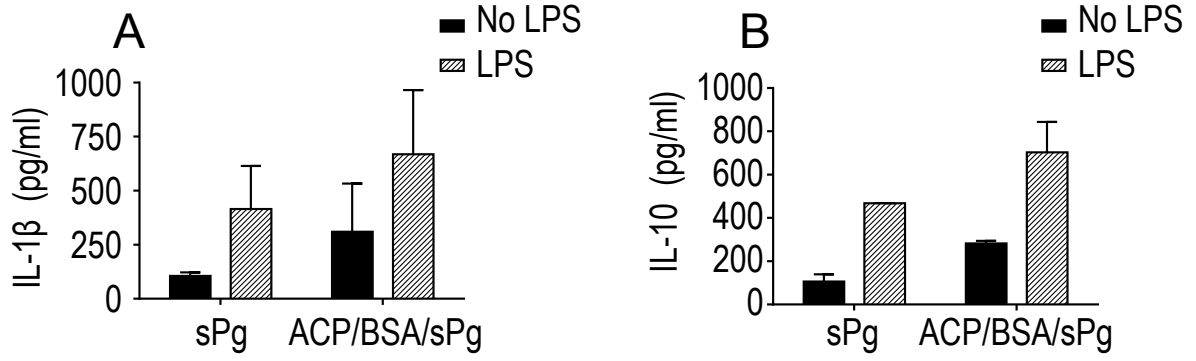

A
IL-1β (pg/ml)
1000
750
500
250
0
No LPS
LPS
sPg
ACP/BSA/sPg
B
IL-10 (pg/ml)
1000
800
600
400
200
0
No LPS
LPS
sPg
ACP/BSA/sPg

FIG. 7

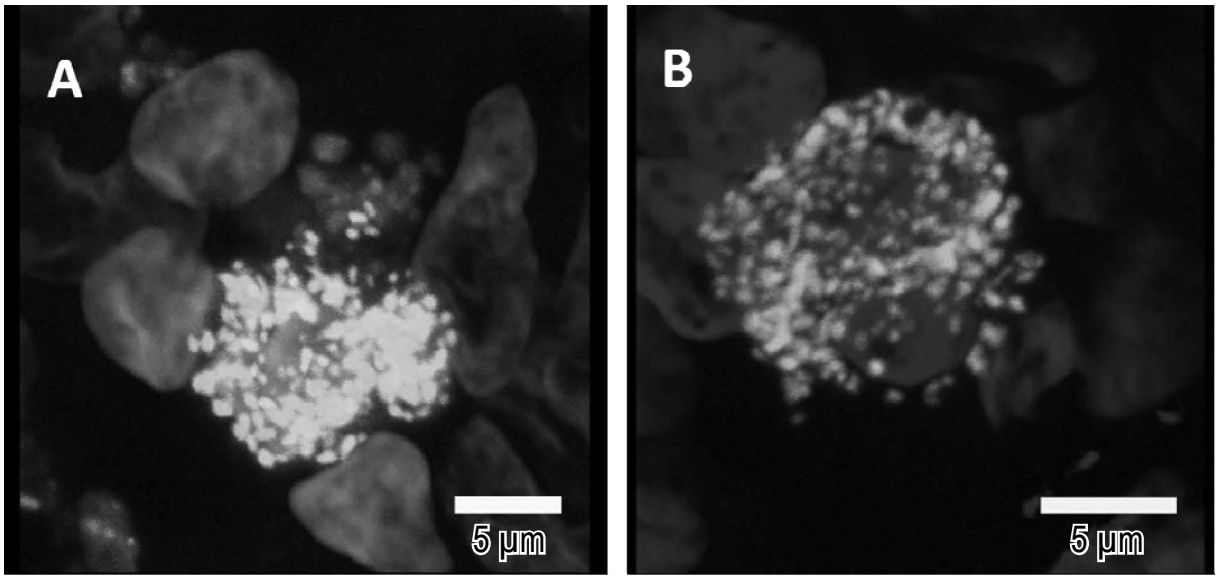


FIG. 8

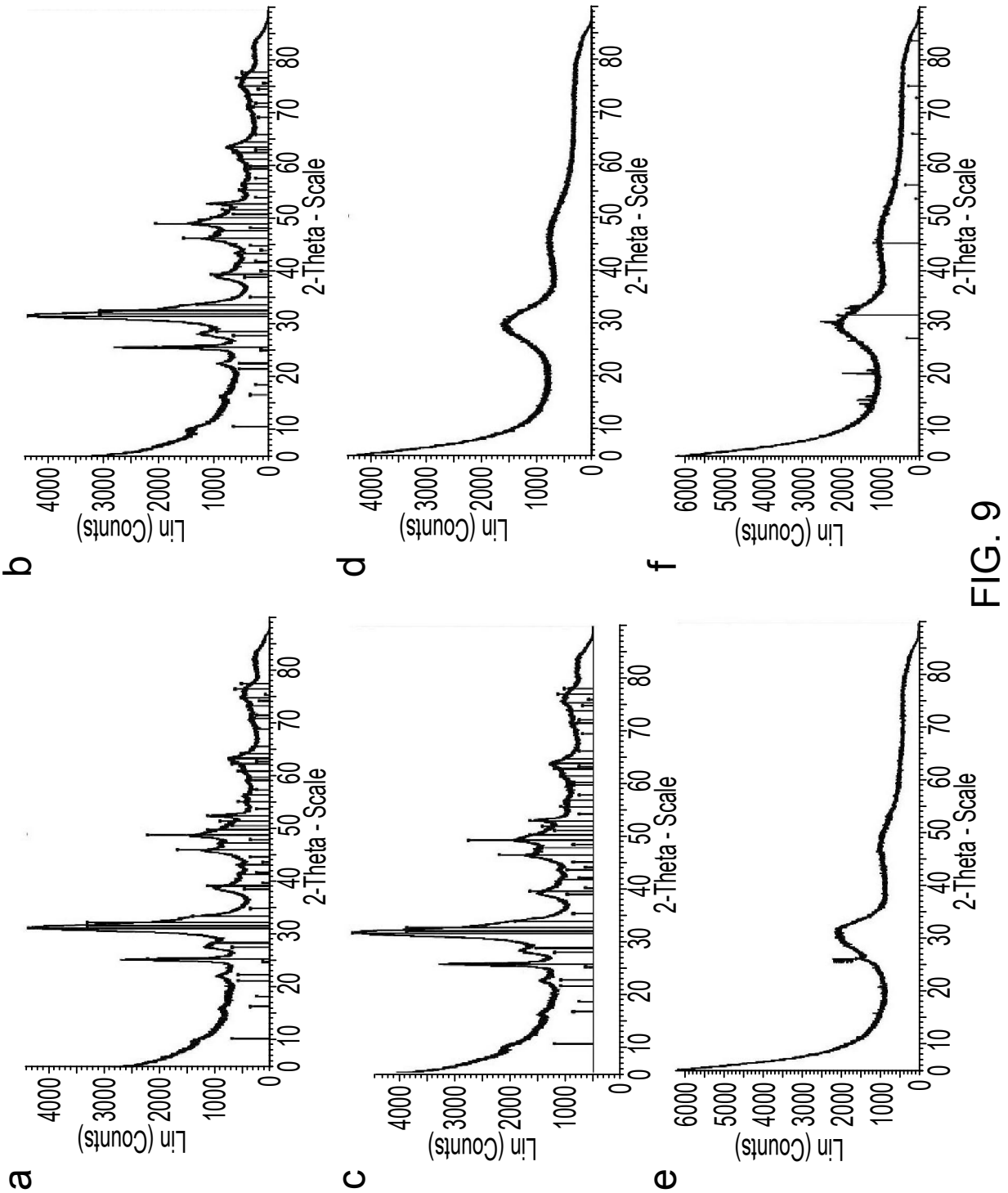


FIG. 9

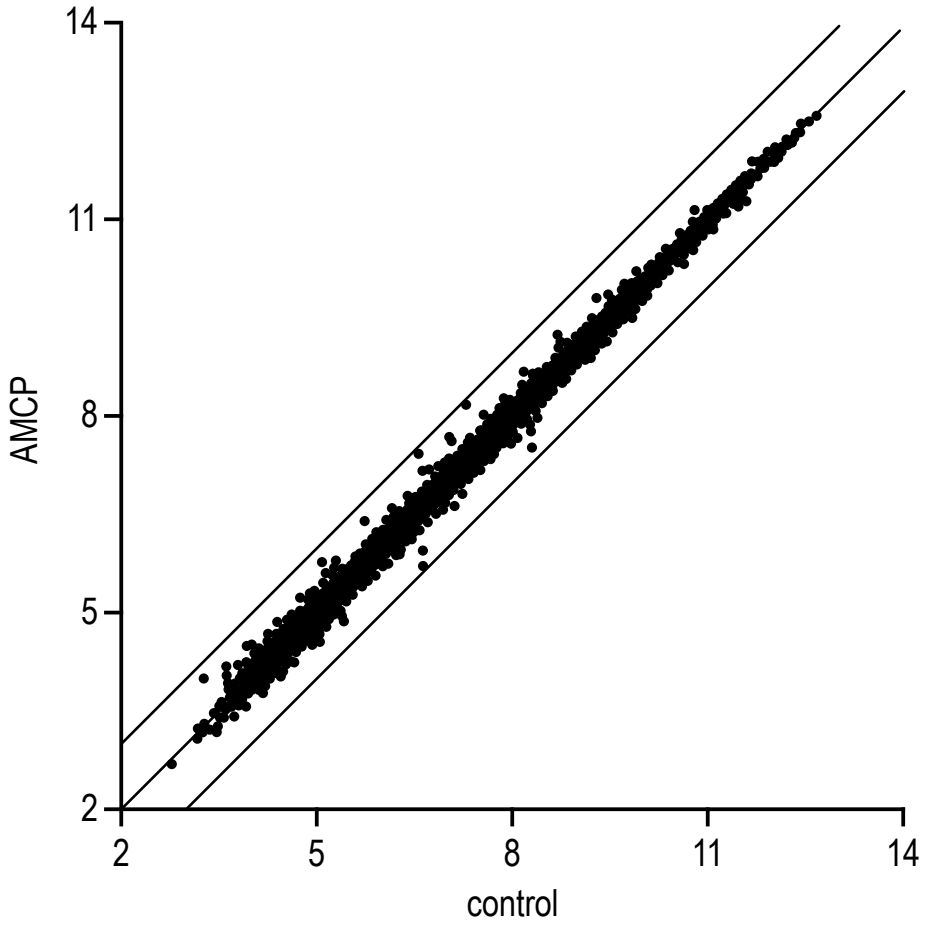


FIG. 10

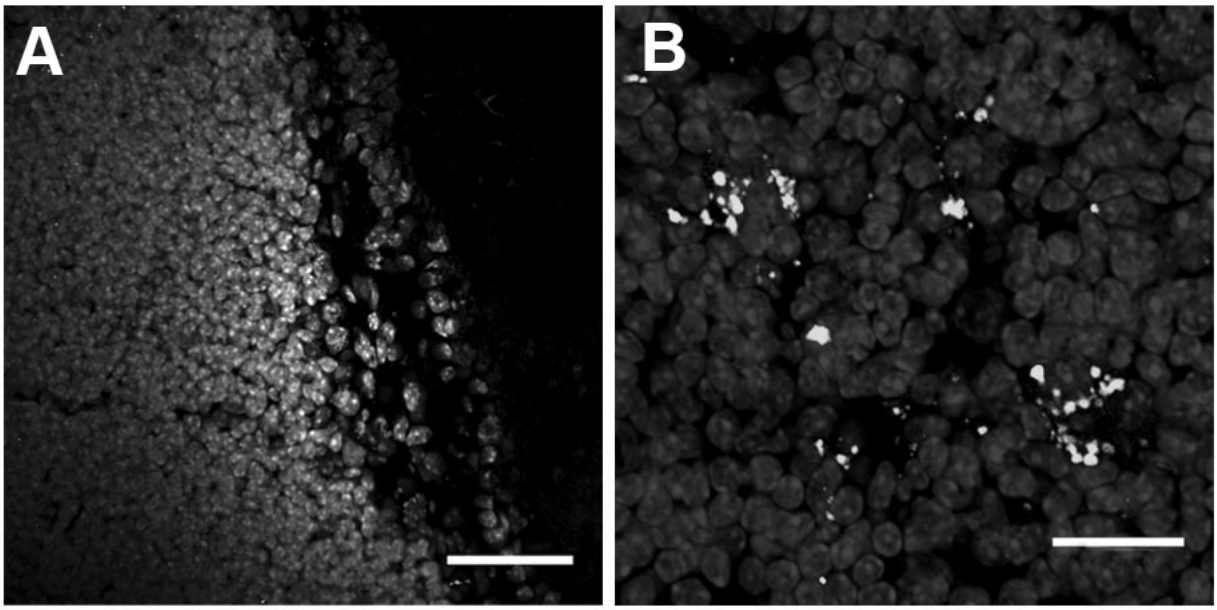


FIG. 11