FIGURE 1A

A Non-CM



FIGURE 1B

B MSC-CM

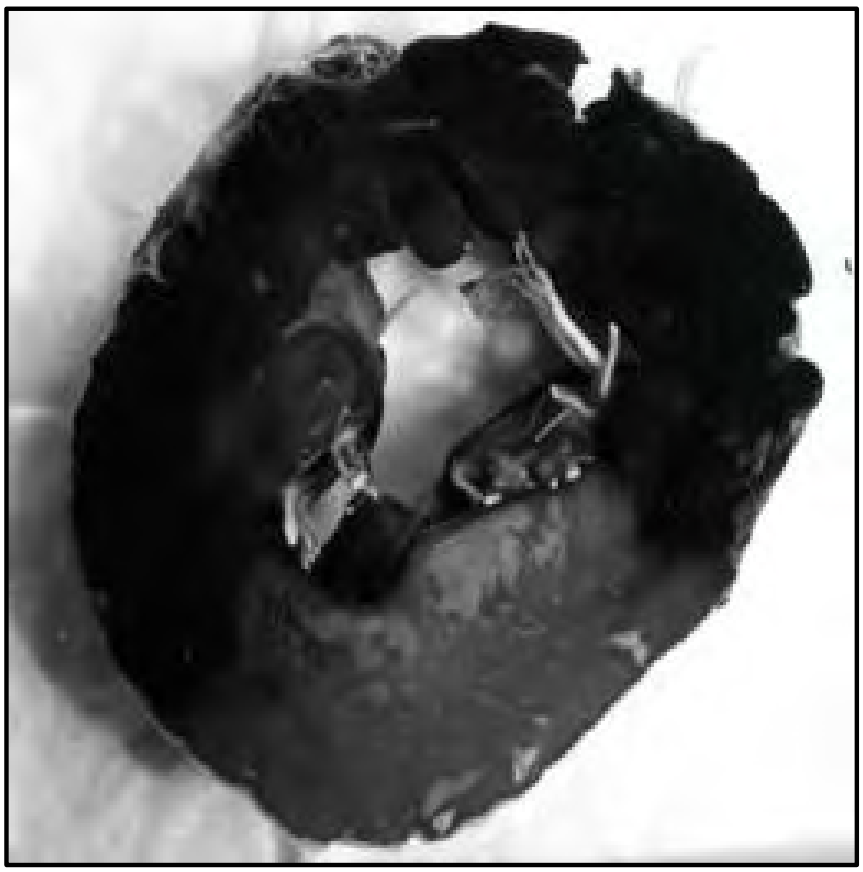


FIGURE 1C

C Saline



FIGURE 1D

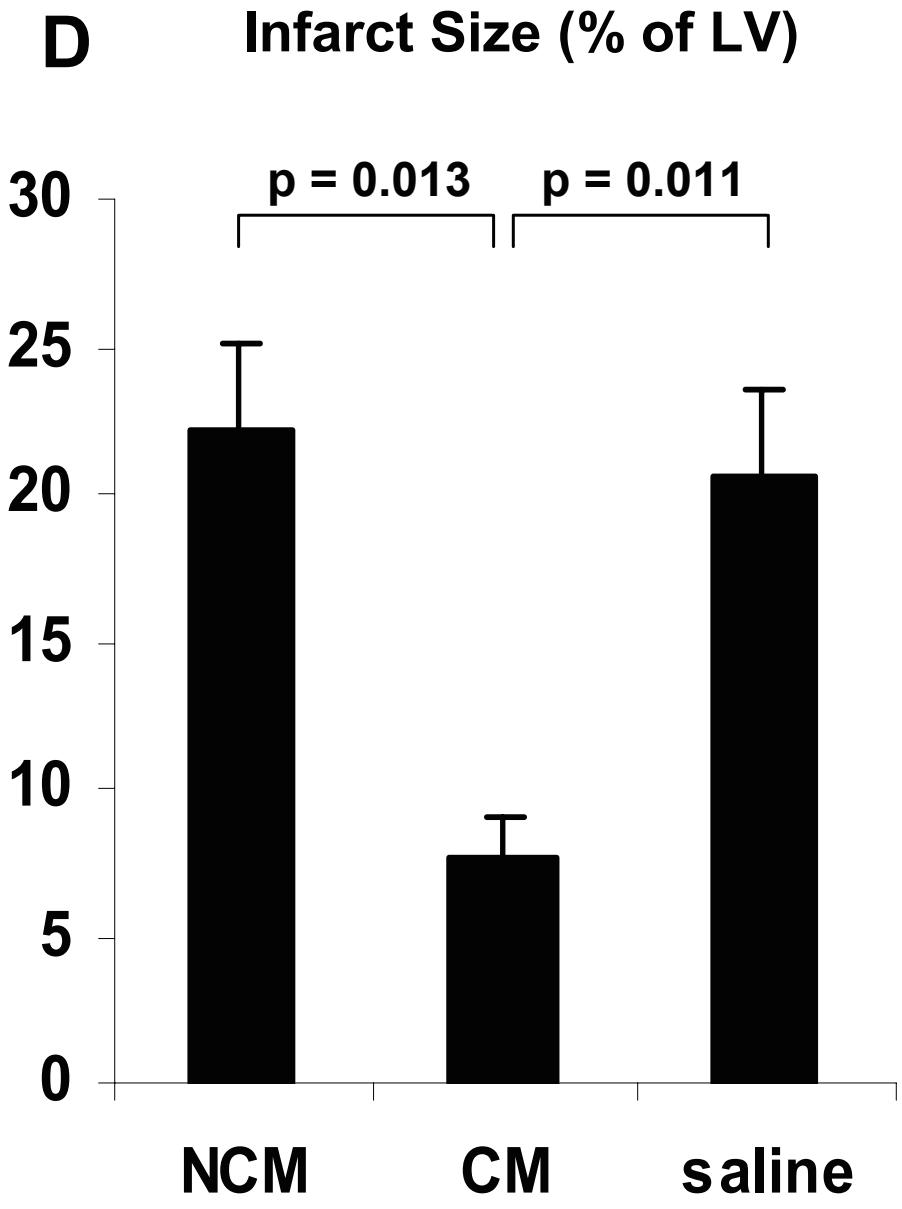


FIGURE 1E

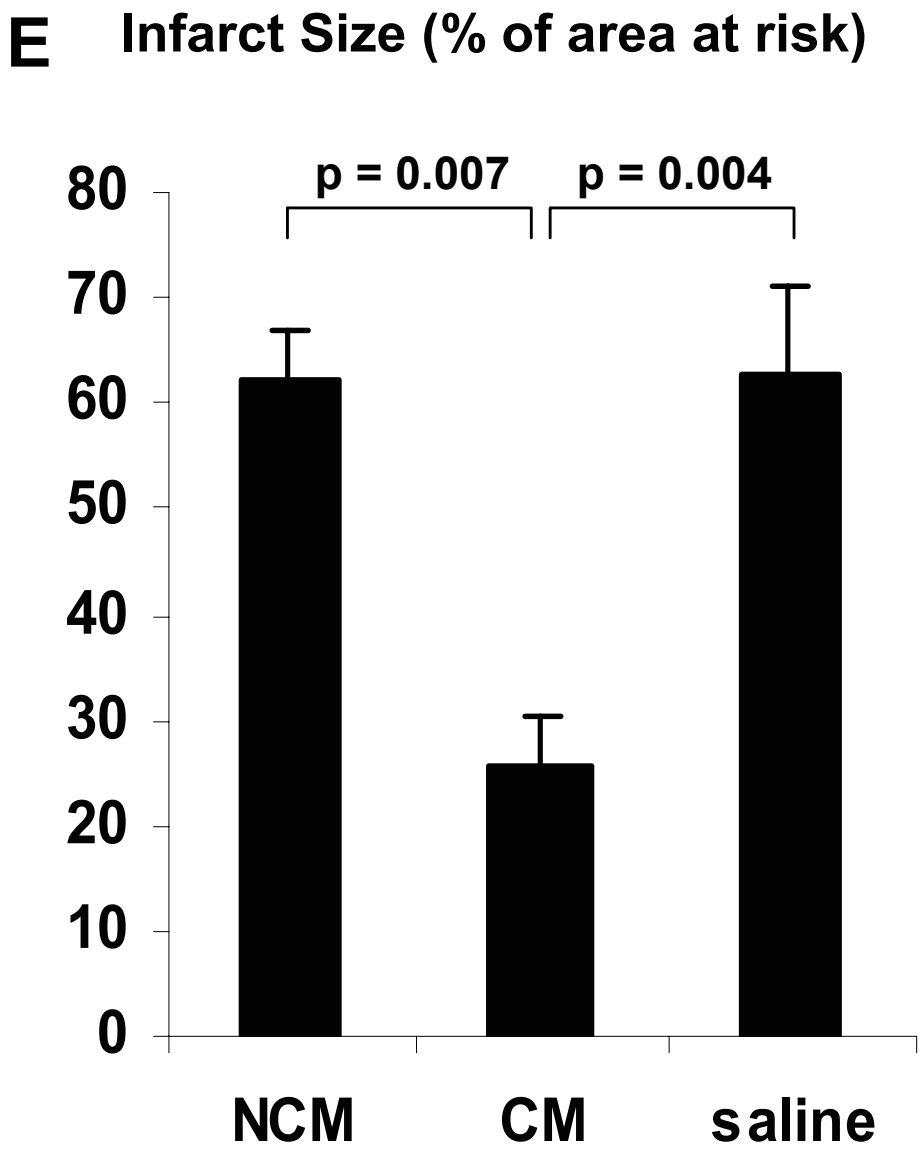

E
Infarct Size (% of area at risk)
p = 0.007
p = 0.004
80
70
60
50
40
30
20
10
0
NCM
CM
saline

FIGURE 2A

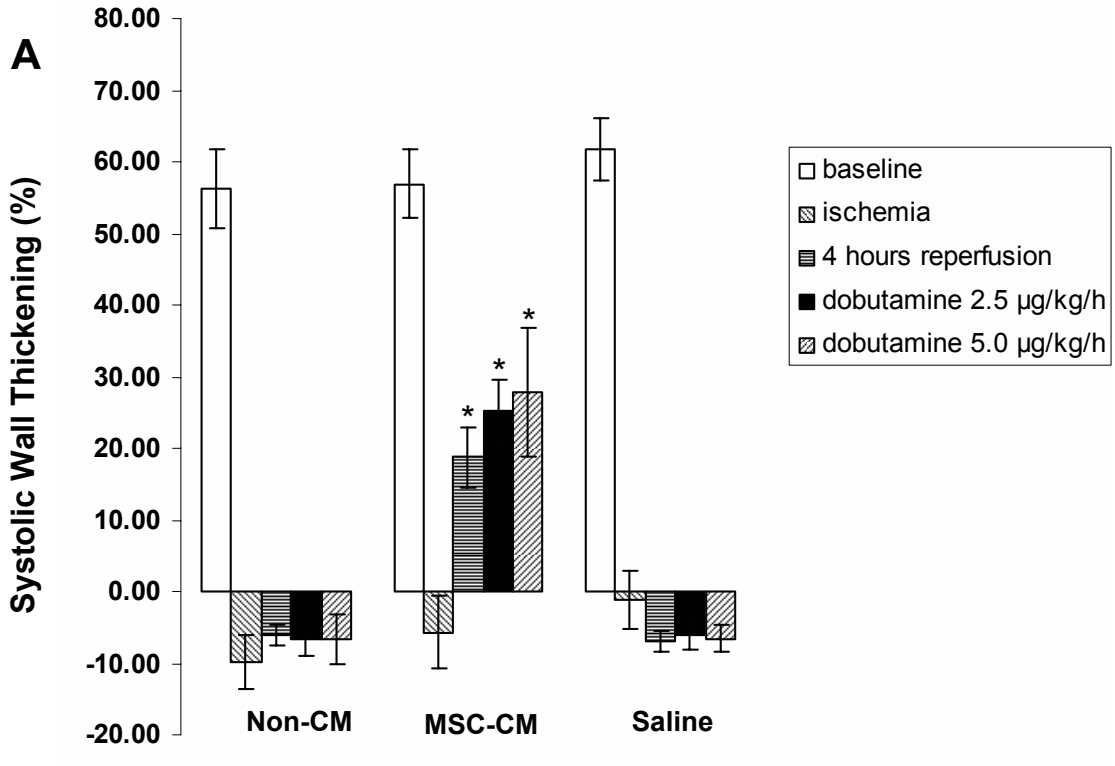

A
Systolic Wall Thickening (%)
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
Non-CM
MSC-CM
Saline
*
*
*
baseline
ischemia
4 hours reperfusion
dobutamine 2.5 µg/kg/h
dobutamine 5.0 µg/kg/h

FIGURE 2B

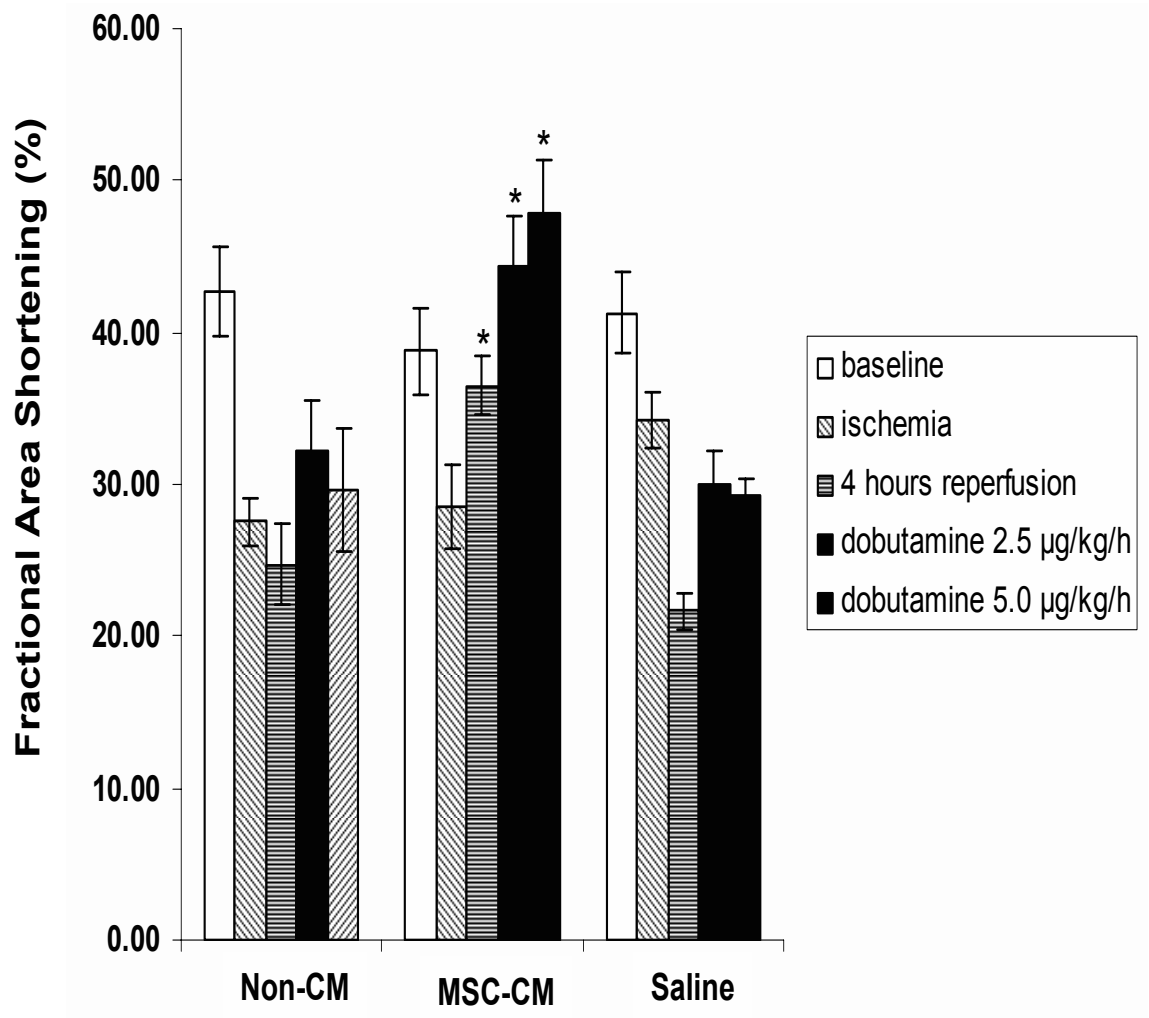

Fractional Area Shortening (%)
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Non-CM
MSC-CM
Saline
baseline
ischemia
4 hours reperfusion
dobutamine 2.5 µg/kg/h
dobutamine 5.0 µg/kg/h
*
*
*

FIGURE 3A

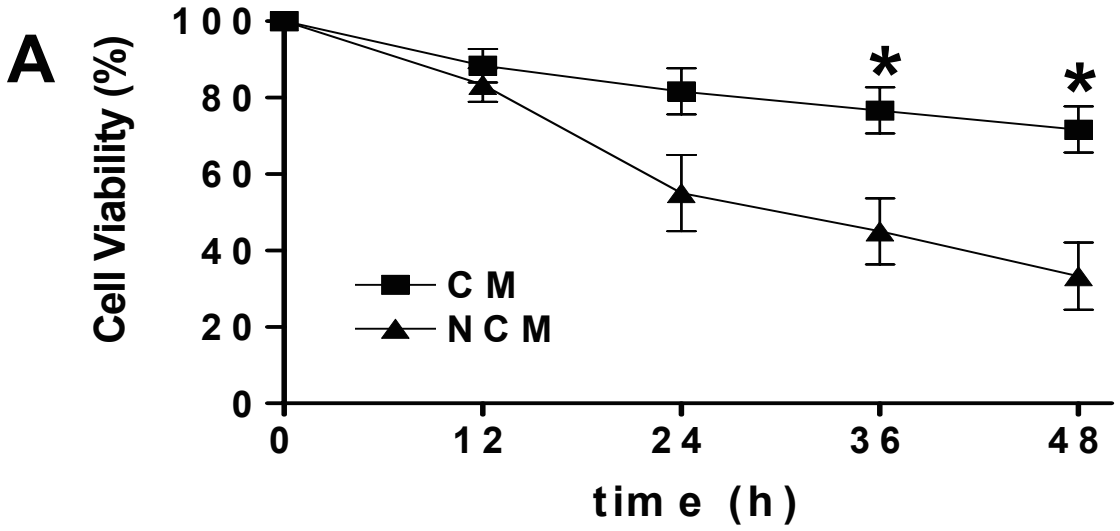


FIGURE 3B

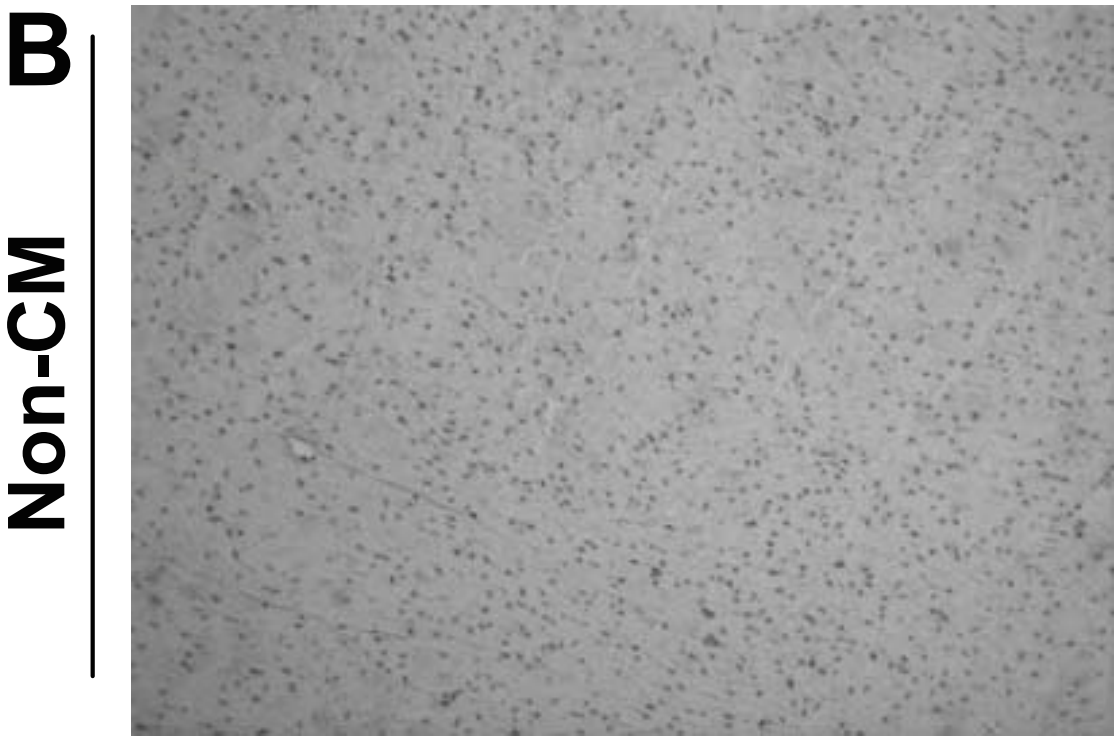


FIGURE 3C

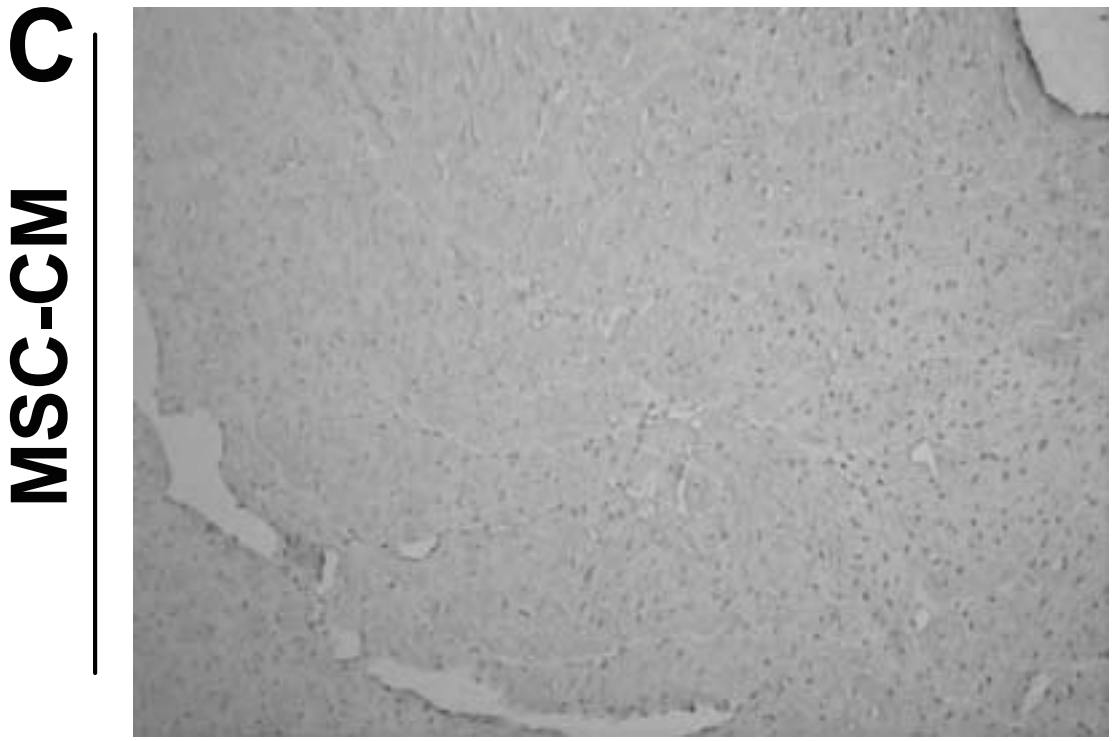


FIGURE 3D

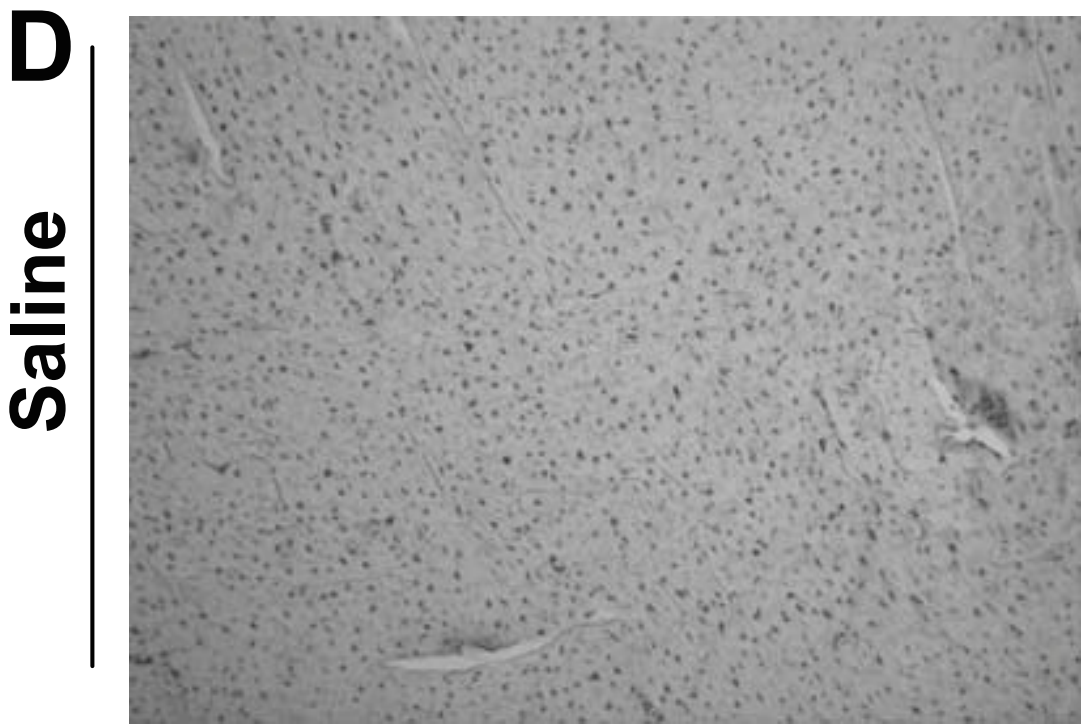


FIGURE 3E

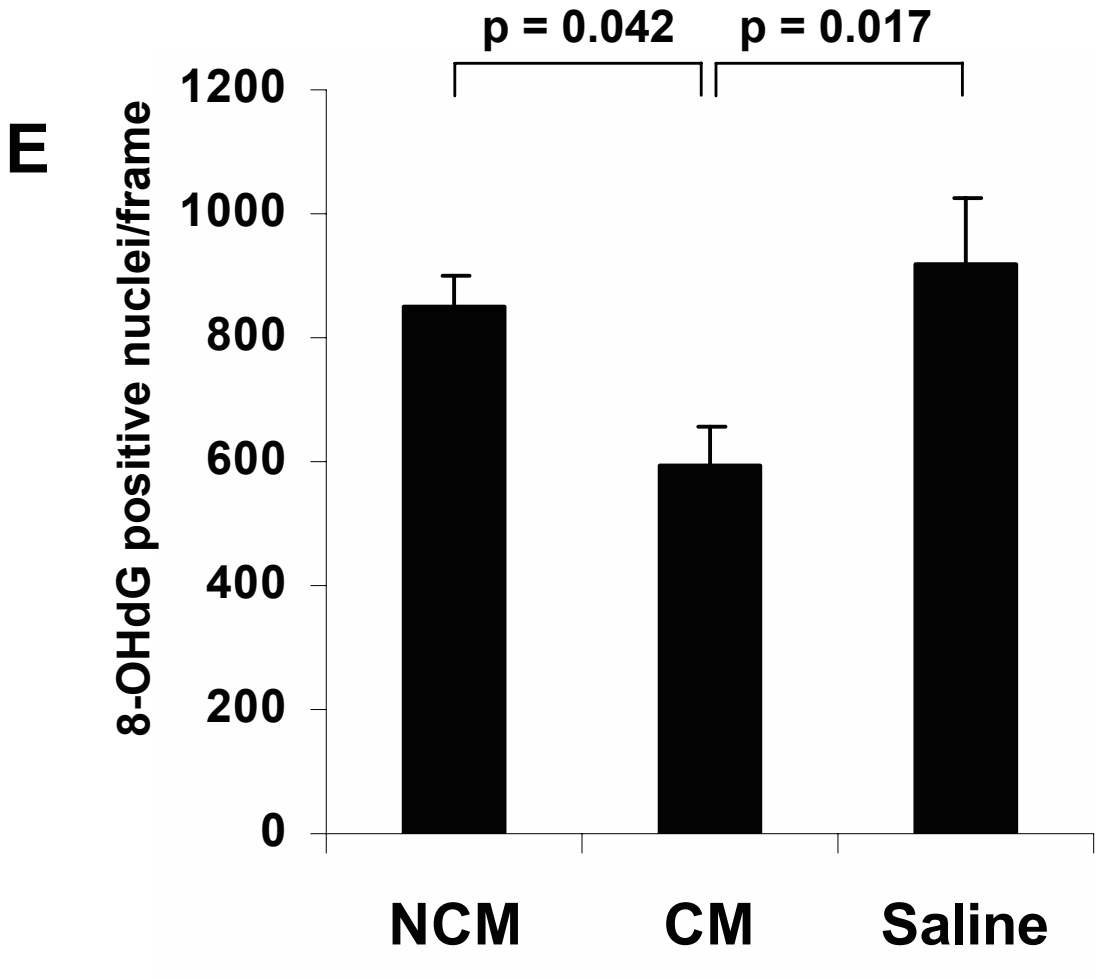

E
p = 0.042
p = 0.017
8-OHdG positive nuclei/frame
1200
1000
800
600
400
200
0
NCM
CM
Saline

FIGURE 4A

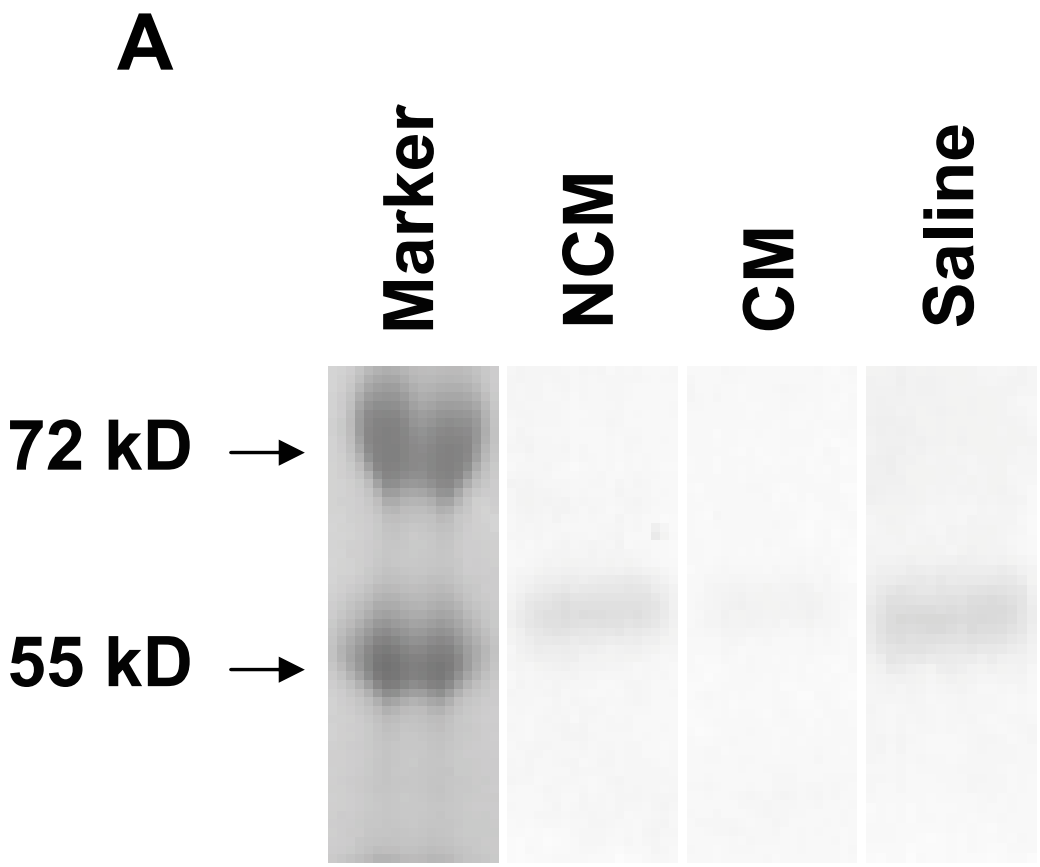


FIGURE 4B

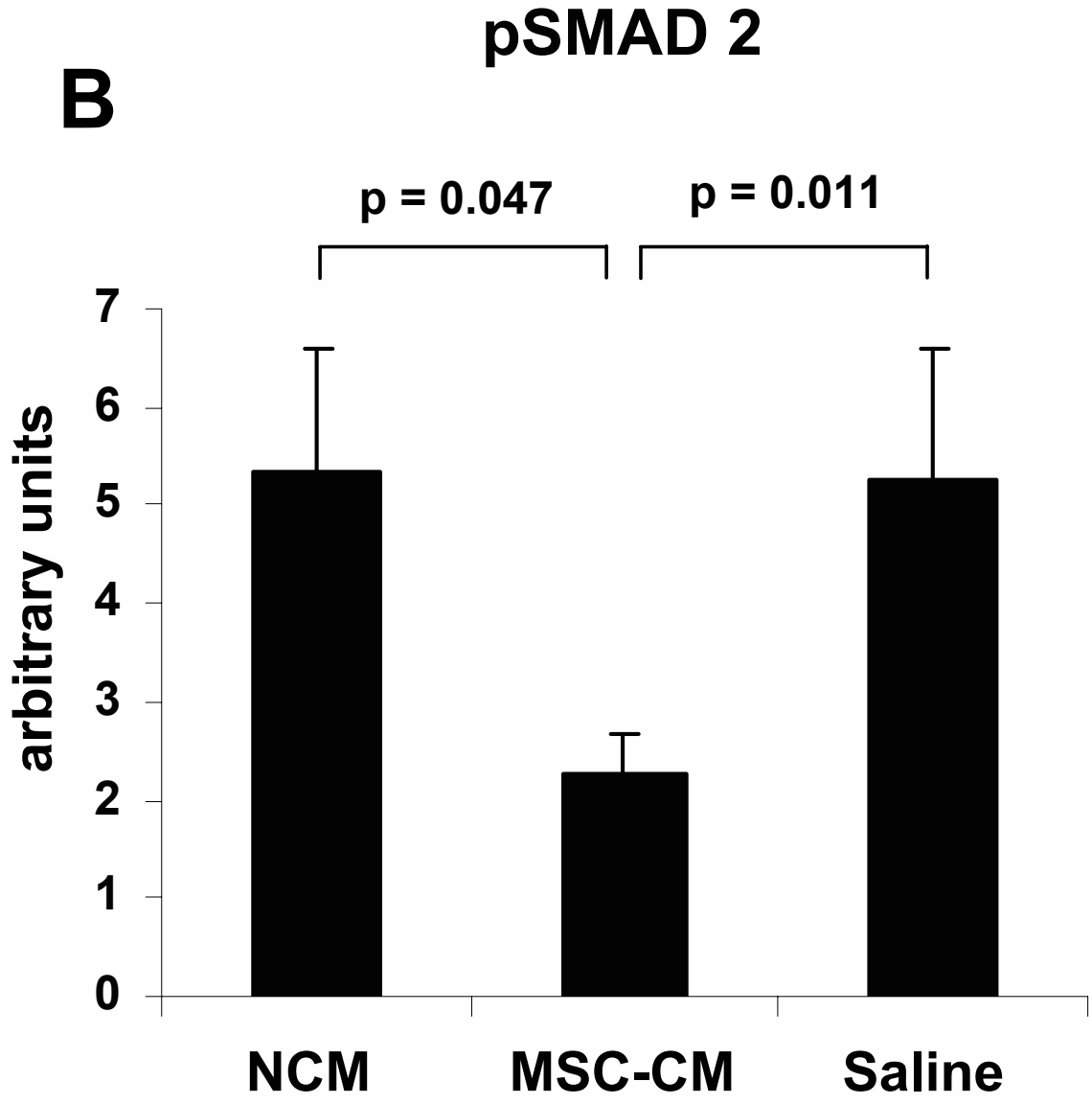

B
pSMAD 2
p = 0.047
p = 0.011
arbitrary units
0
1
2
3
4
5
6
7
NCM
MSC-CM
Saline

FIGURE 4C

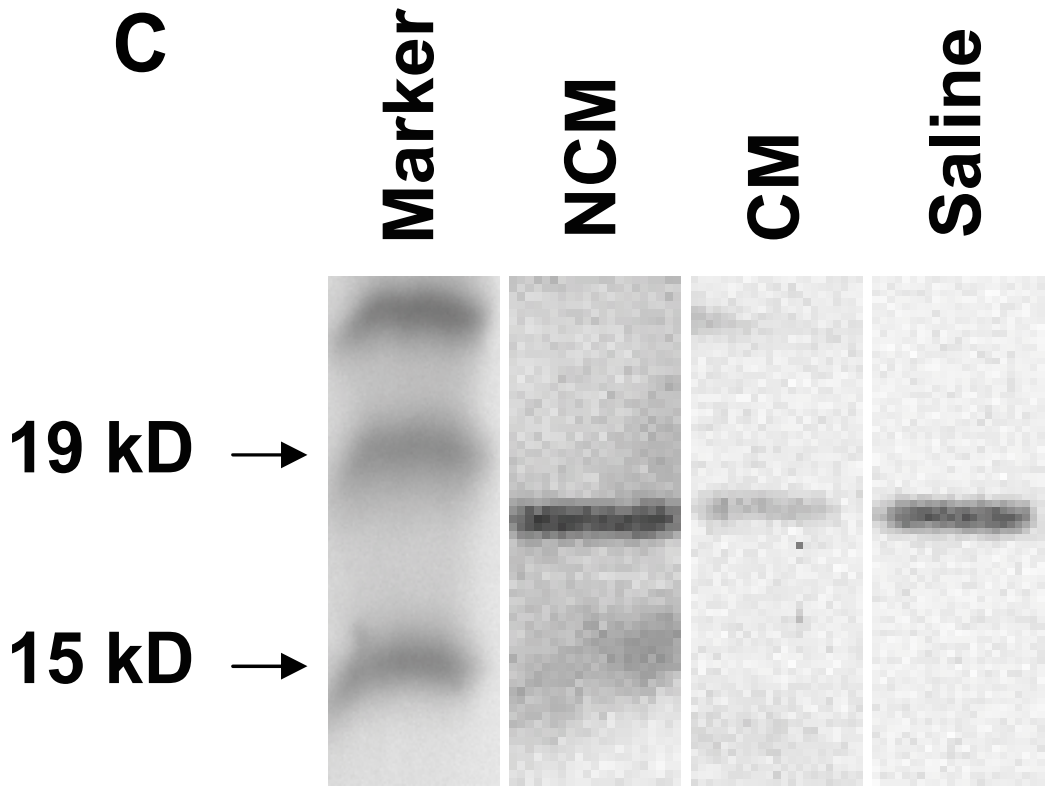


FIGURE 4D

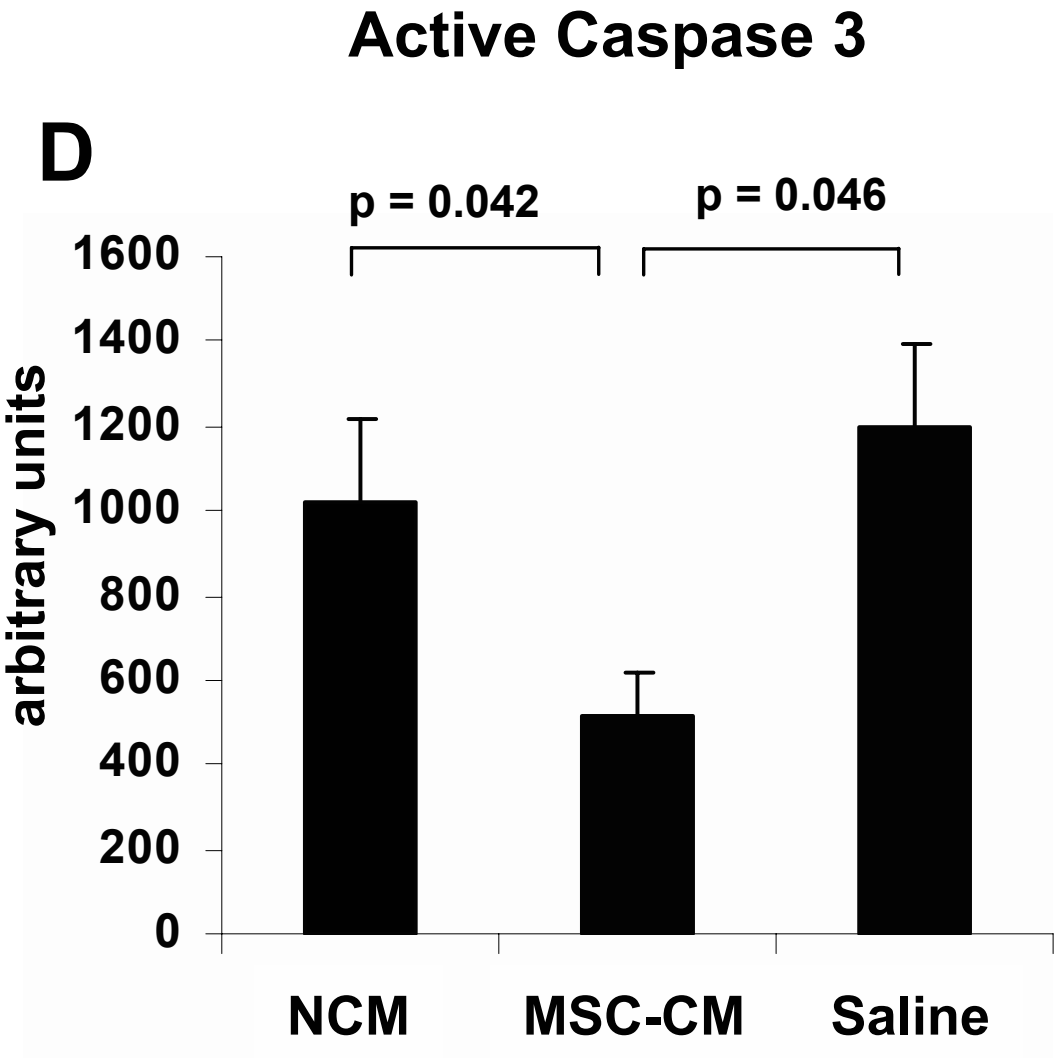

Active Caspase 3
D
p = 0.042
p = 0.046
arbitrary units
1600
1400
1200
1000
800
600
400
200
0
NCM
MSC-CM
Saline

FIGURE 4E

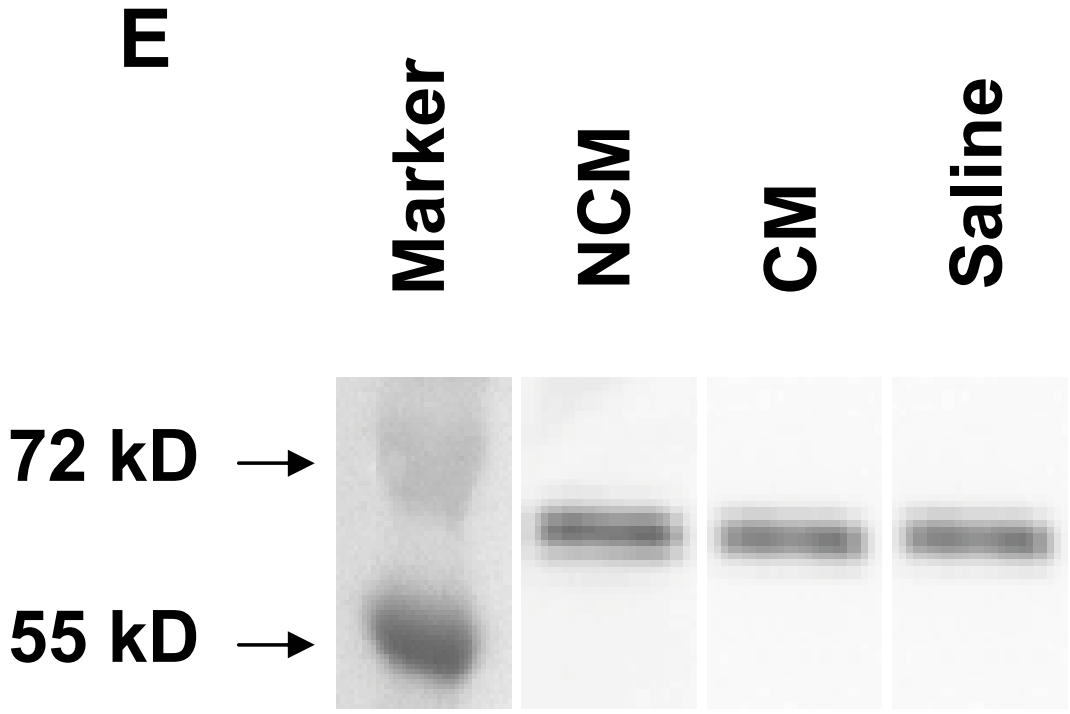


FIGURE 5

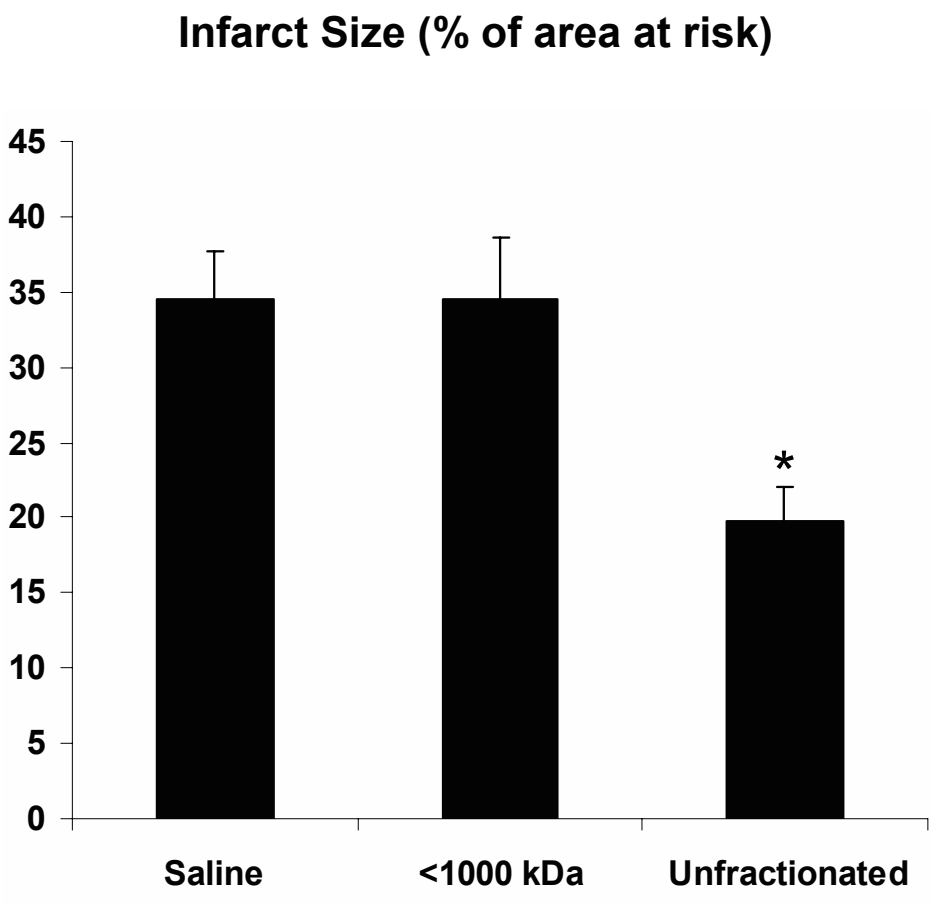

Infarct Size (% of area at risk)
45
40
35
30
25
20
15
10
5
0
*
Saline
<1000 kDa
Unfractionated

FIGURE 6

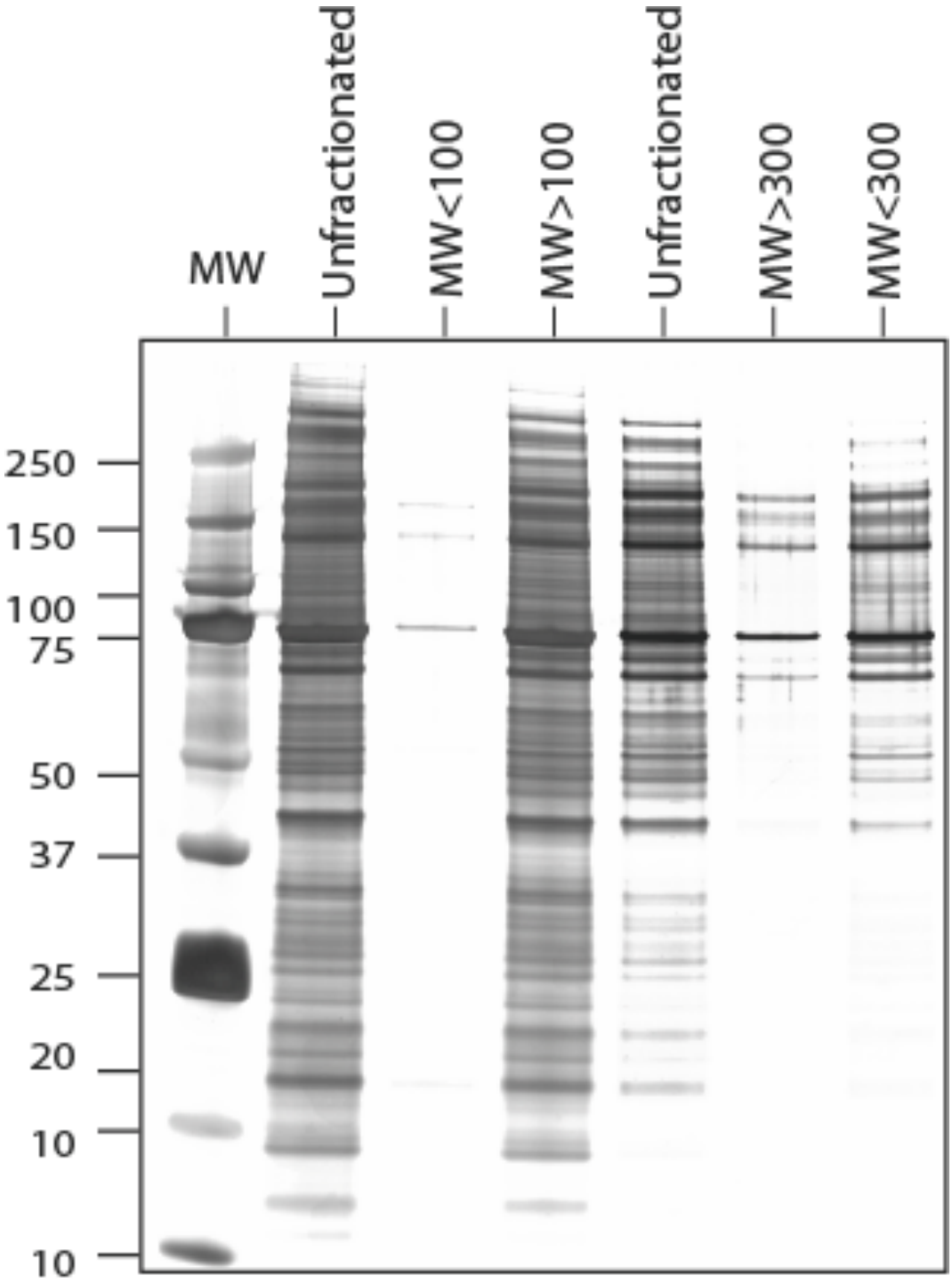

MW
Unfractionated
MW<100
MW>100
Unfractionated
MW>300
MW<300
250
150
100
75
50
37
25
20
10
10

FIGURE 7A

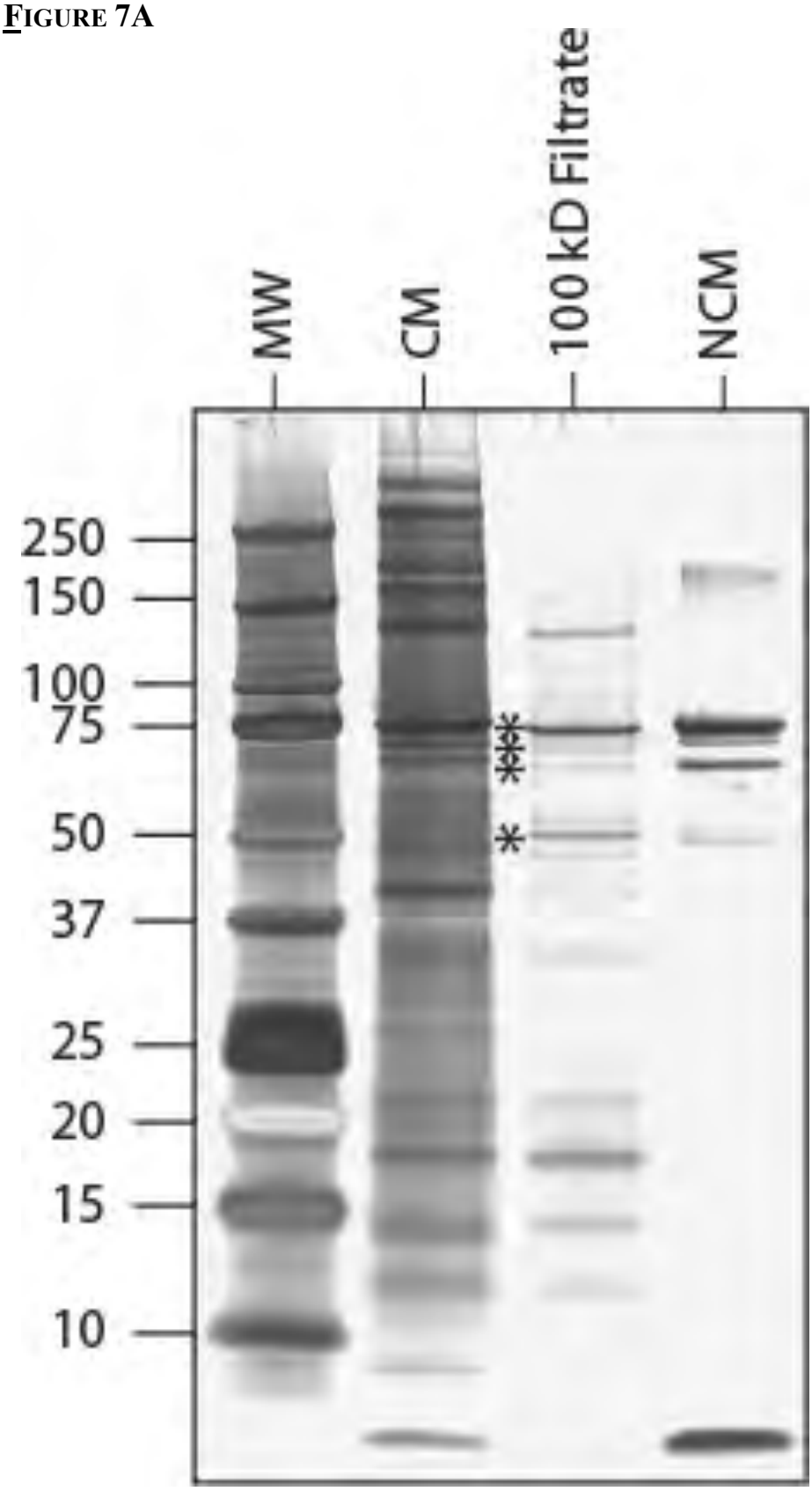


FIGURE 7B

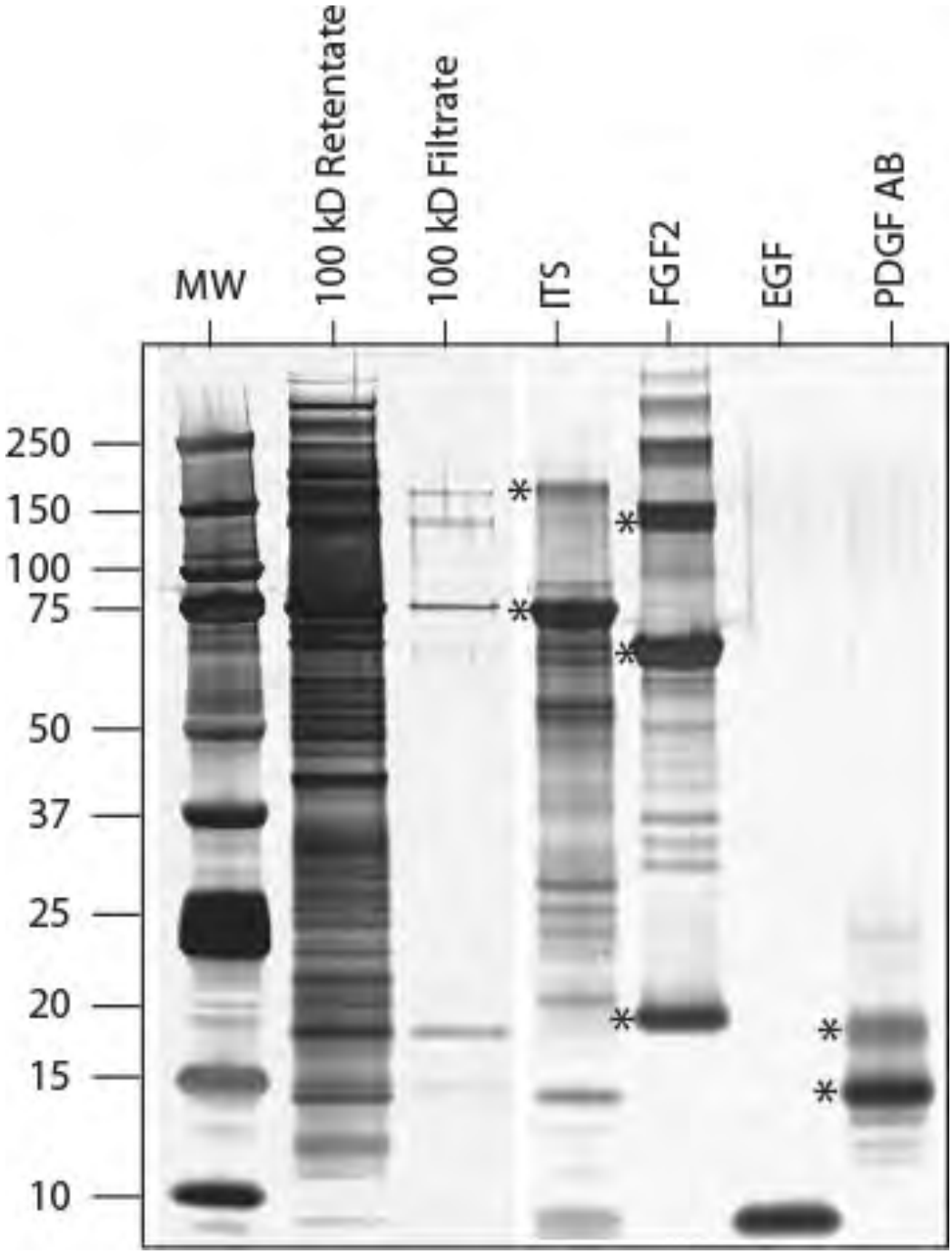

MW
100 kD Retentate
100 kD Filtrate
ITS
FGF2
EGF
PDGF AB
250
150
100
75
50
37
25
20
15
10

FIGURE 8

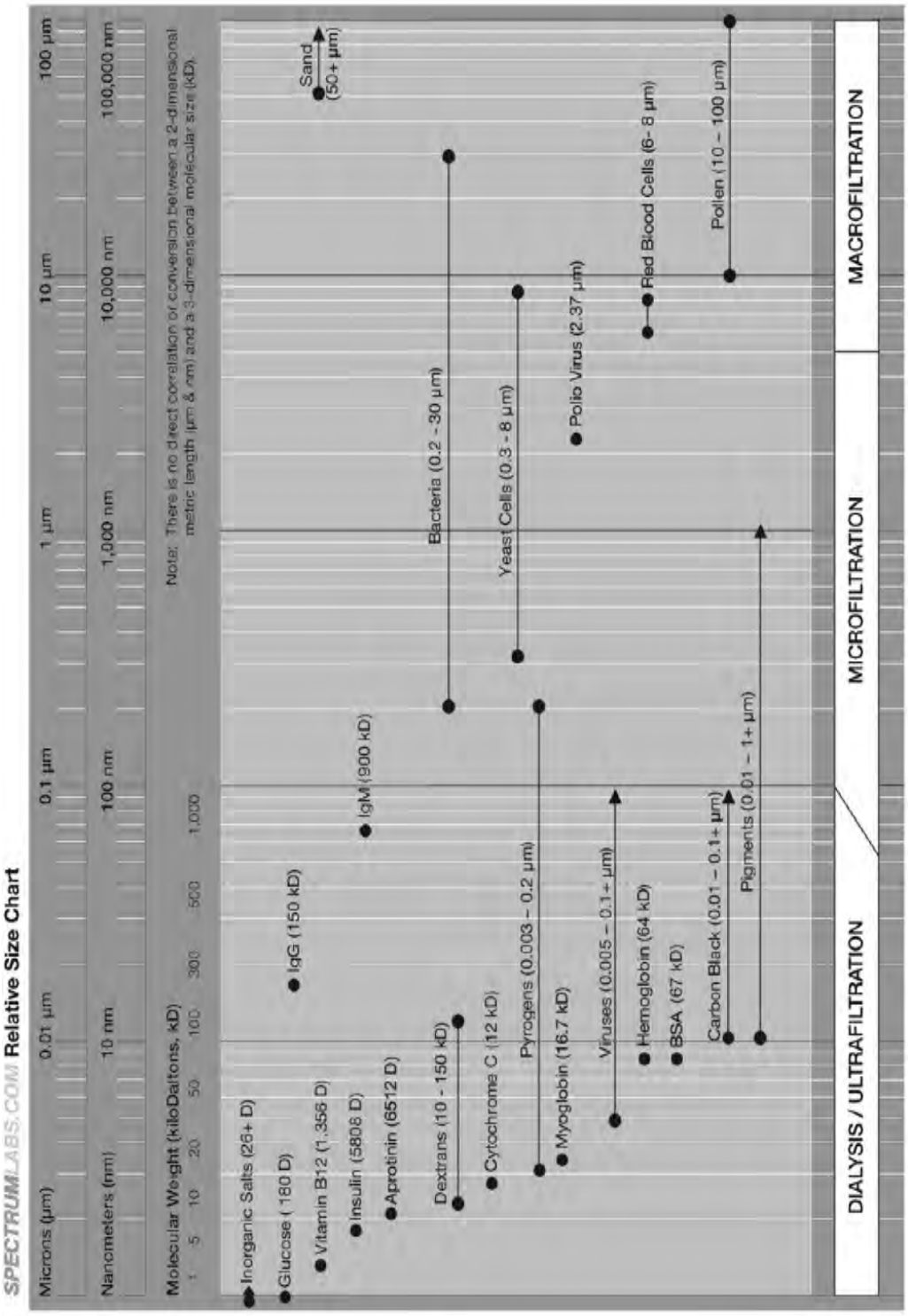

SPECTRUMLABS.COM Relative Size Chart
Microns (µm)
0.01 µm
0.1 µm
1 µm
10 µm
100 µm
Nanometers (nm)
10 nm
100 nm
1,000 nm
10,000 nm
100,000 nm
Molecular Weight (kiloDaltons, kD)
1 5 10 20 50 100 300 500 1,000
Note: There is no direct correlation or conversion between a 2-dimensional metric length (µm & nm) and a 3-dimensional molecular size (kD).
Inorganic Salts (26+ D)
Glucose (180 D)
Vitamin B12 (1,356 D)
Insulin (5808 D)
Aprotinin (6512 D)
Dextrans (10 - 150 kD)
Cytochrome C (12 kD)
Myoglobin (16.7 kD)
IgG (150 kD)
IgM (900 kD)
Pyrogens (0.003 – 0.2 µm)
Viruses (0.005 – 0.1+ µm)
Hemoglobin (64 kD)
BSA (67 kD)
Carbon Black (0.01 – 0.1+ µm)
Pigments (0.01 – 1+ µm)
Bacteria (0.2 - 30 µm)
Yeast Cells (0.3 - 8 µm)
Polio Virus (2.37 µm)
Red Blood Cells (6- 8 µm)
Pollen (10 – 100 µm)
Sand (50+ µm)
DIALYSIS / ULTRAFILTRATION
MICROFILTRATION
MACROFILTRATION

FIGURE 9

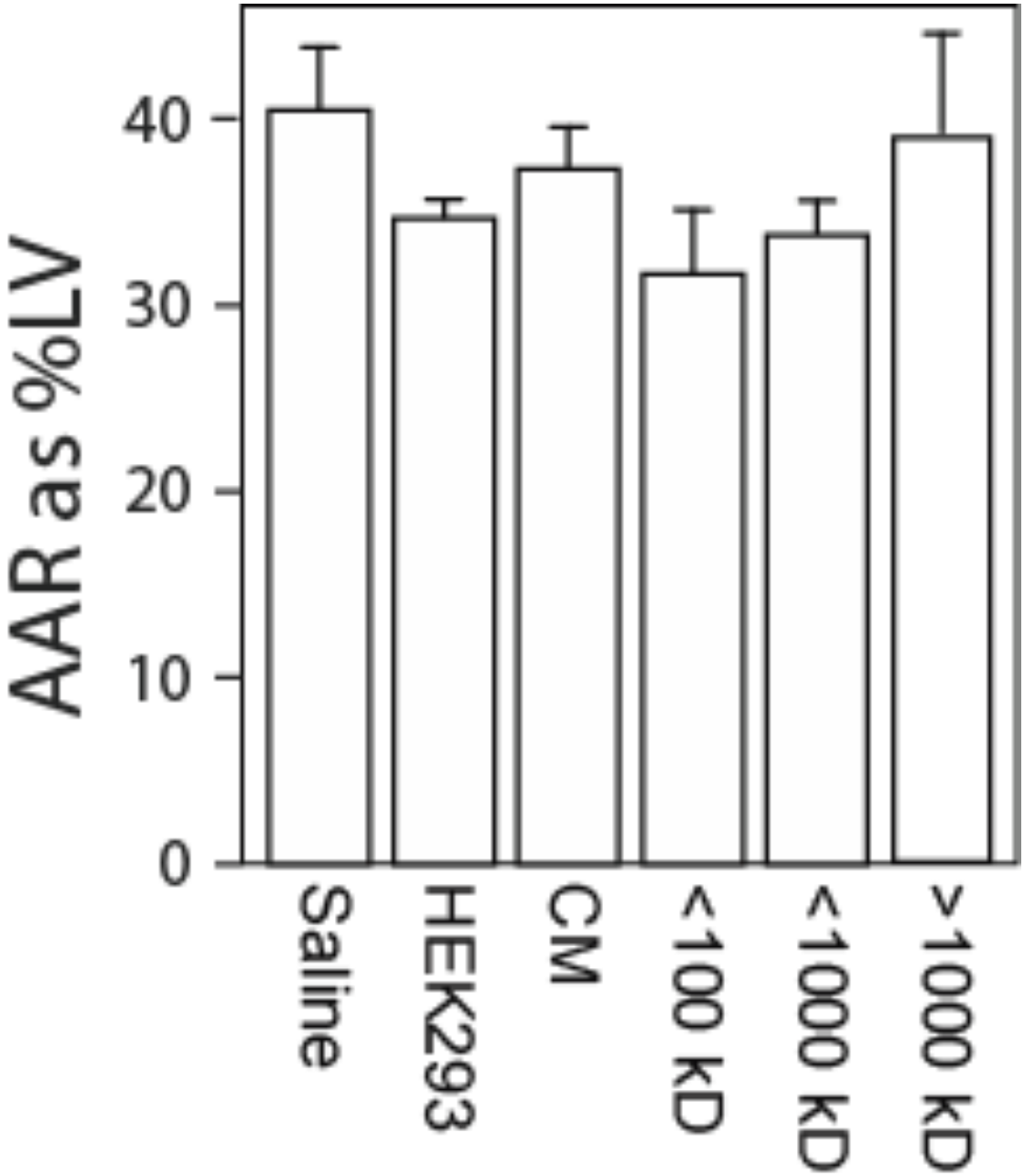


FIGURE 10

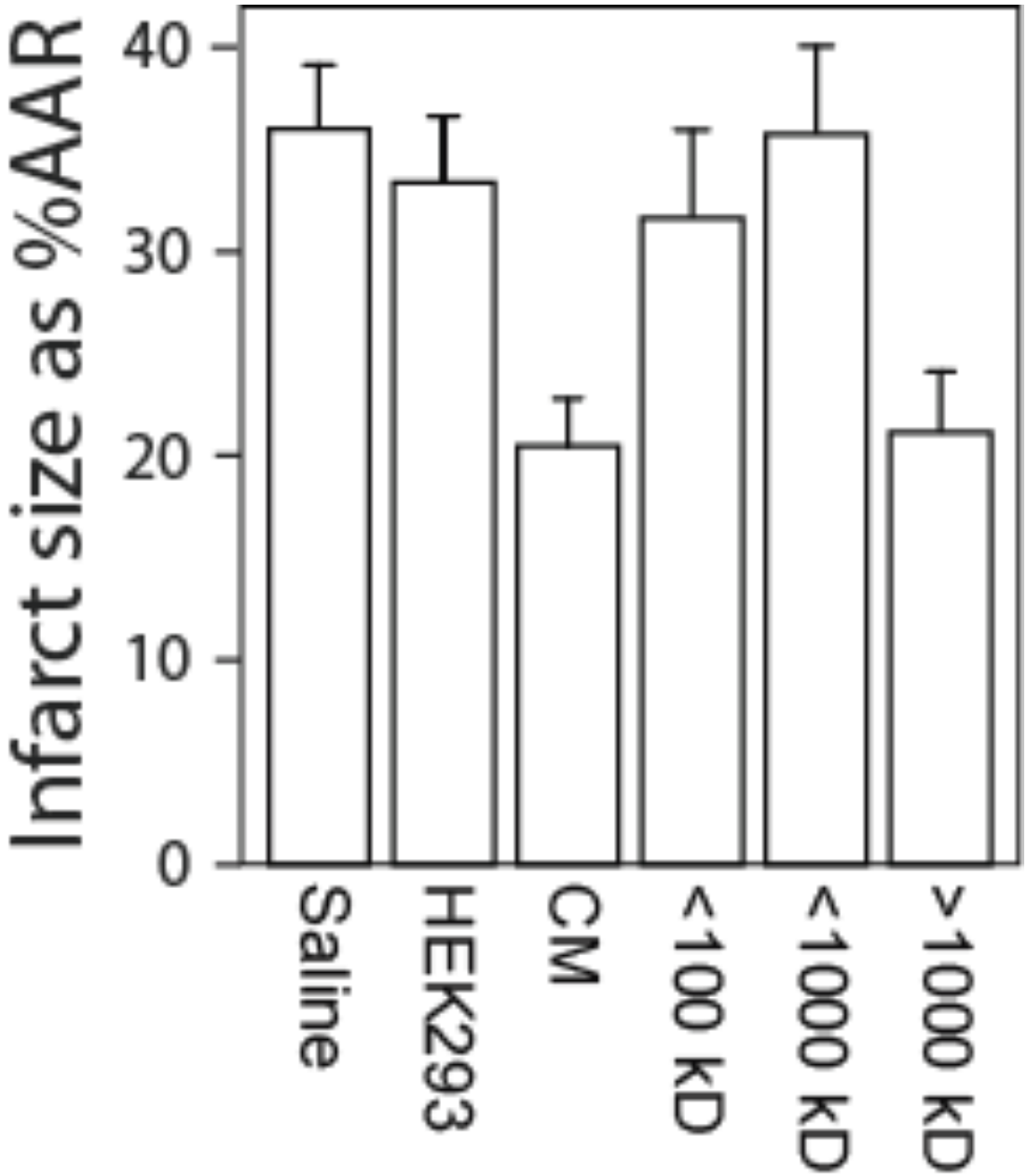

Infarct size as %AAR
40
30
20
10
0
Saline
HEK293
CM
<100 kD
<1000 kD
>1000 kD

FIGURE 11

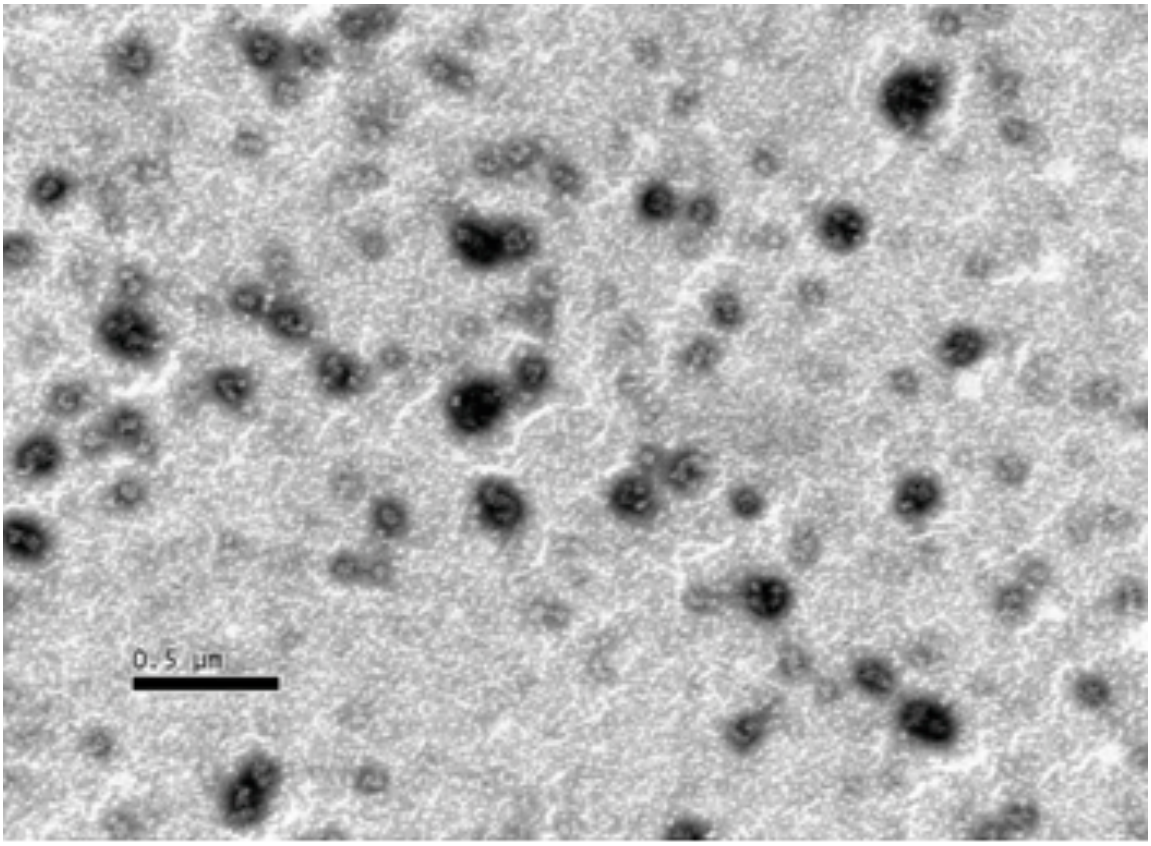


FIGURE 12

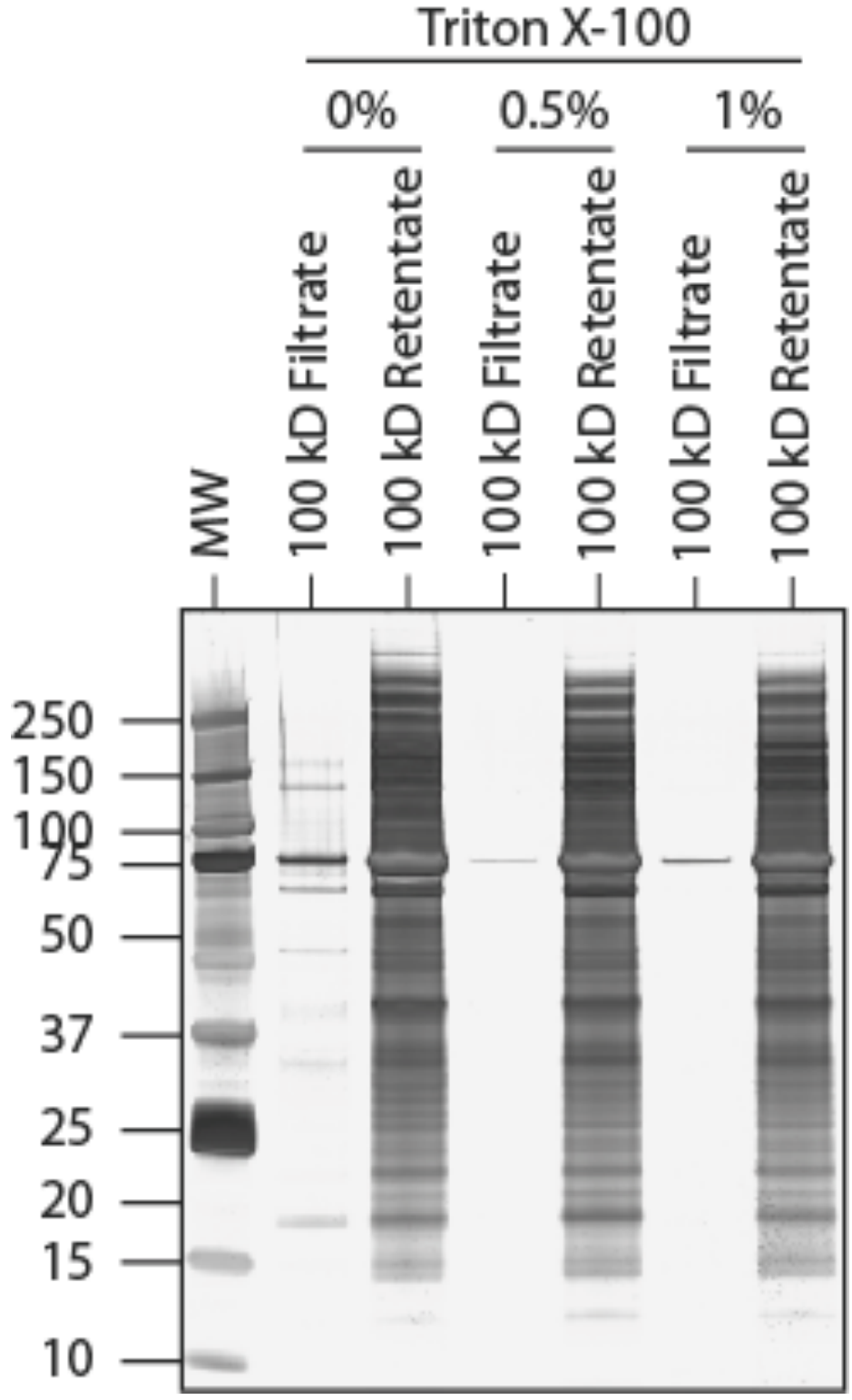

Triton X-100
0%
0.5%
1%
MW
100 kD Filtrate
100 kD Retentate
100 kD Filtrate
100 kD Retentate
100 kD Filtrate
100 kD Retentate
250
150
100
75
50
37
25
20
15
10

FIGURE 13

Classifications	Proteins
Targeting/adhesion	Integrins β1, α3, α7, and αV
	MFG-E8, lactadherin
	Chaperones
	hsc70 and hsp84
Membrane fusion	Annexins A1, A2, A3, A4, A5, A6, and A11
	Arf3, Arf6, and Arf5
	Rab5c, Rab7, and Rab10
	RabGDI
	Rap1A and Rap2B
Cytoskeleton	Actin
	Cofilin 1
	Moesin
	Tubulins α1, α2, β5, β3, and α6
Signal transduction	14-3-3 ξ, γ, ε
	Gβ1 and Gi2α
Enzymes	Enolase 1
	GAPDH
	Pyruvate kinase
Histones	H2B, H2A, and H4
Others	Translation elongation factor 1α
	lamp2
	C3

FIGURE 14

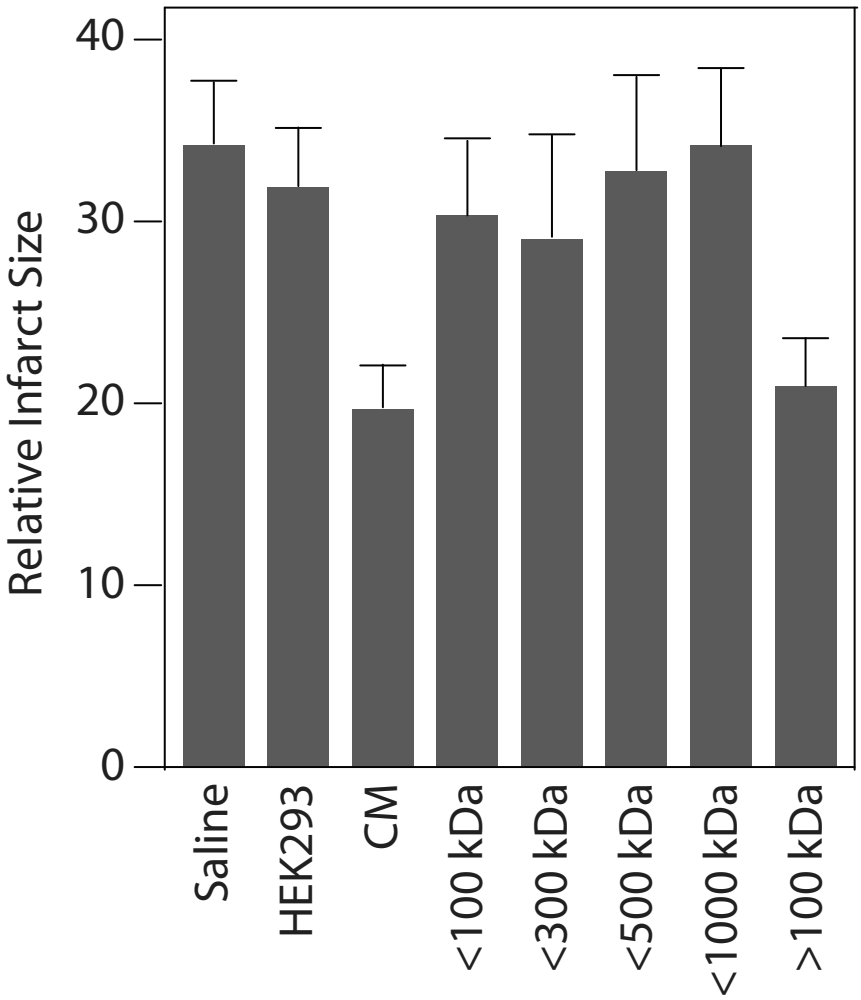

Relative Infarct Size
40
30
20
10
0
Saline
HEK293
CM
<100 kDa
<300 kDa
<500 kDa
<1000 kDa
>100 kDa

FIGURE 15

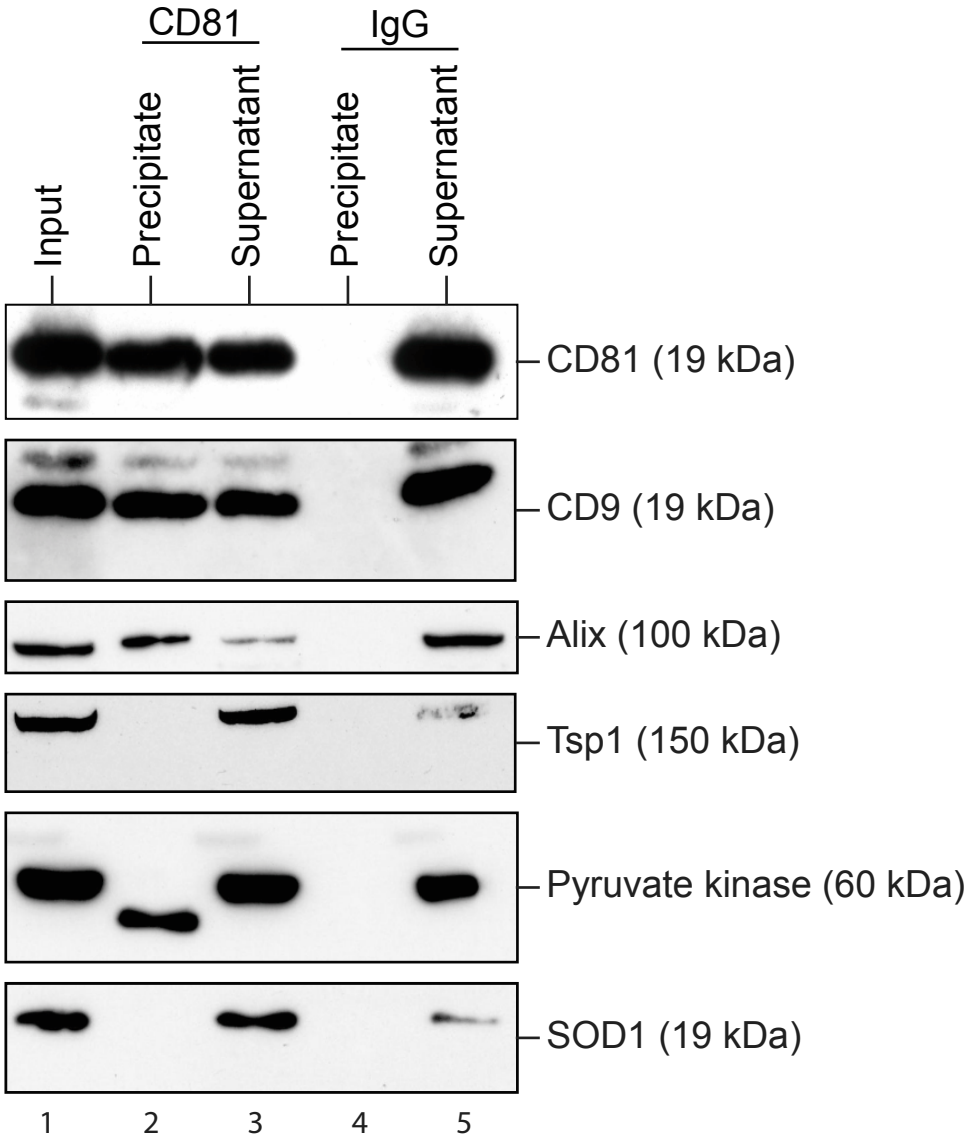

CD81
IgG
Input
Precipitate
Supernatant
Precipitate
Supernatant
CD81 (19 kDa)
CD9 (19 kDa)
Alix (100 kDa)
Tsp1 (150 kDa)
Pyruvate kinase (60 kDa)
SOD1 (19 kDa)
1
2
3
4
5

FIGURE 16

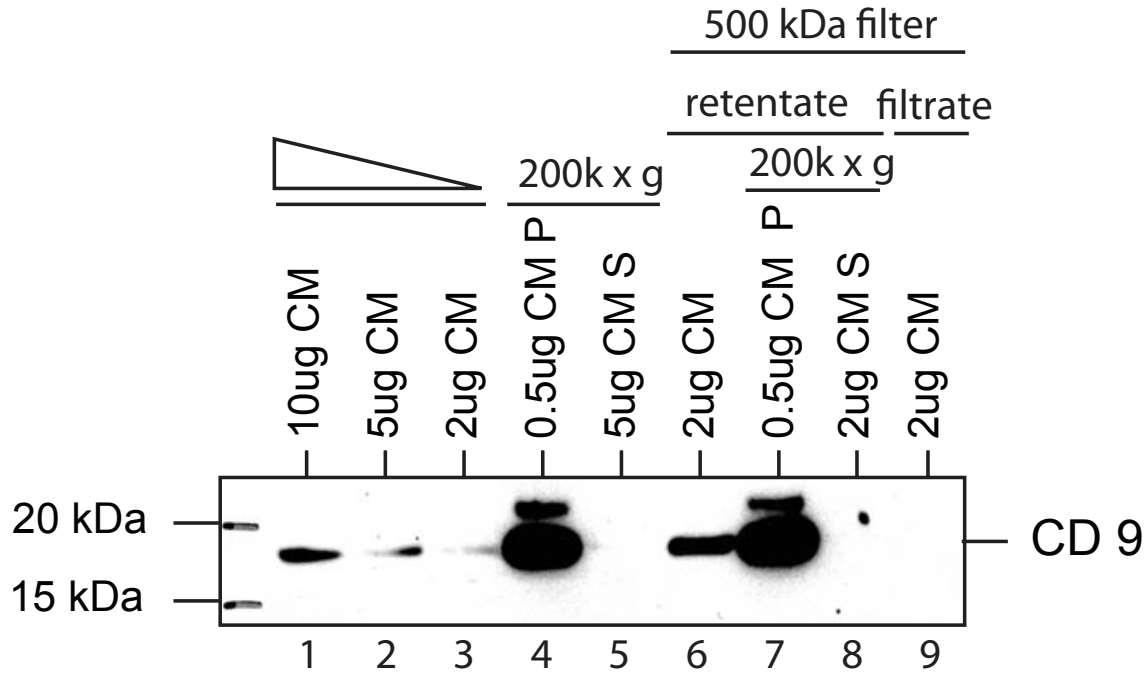

500 kDa filter
retentate
filtrate
200k x g
200k x g
10ug CM
5ug CM
2ug CM
0.5ug CM P
5ug CM S
2ug CM
0.5ug CM P
2ug CM S
2ug CM
20 kDa
15 kDa
CD 9
1
2
3
4
5
6
7
8
9

FIGURE 17

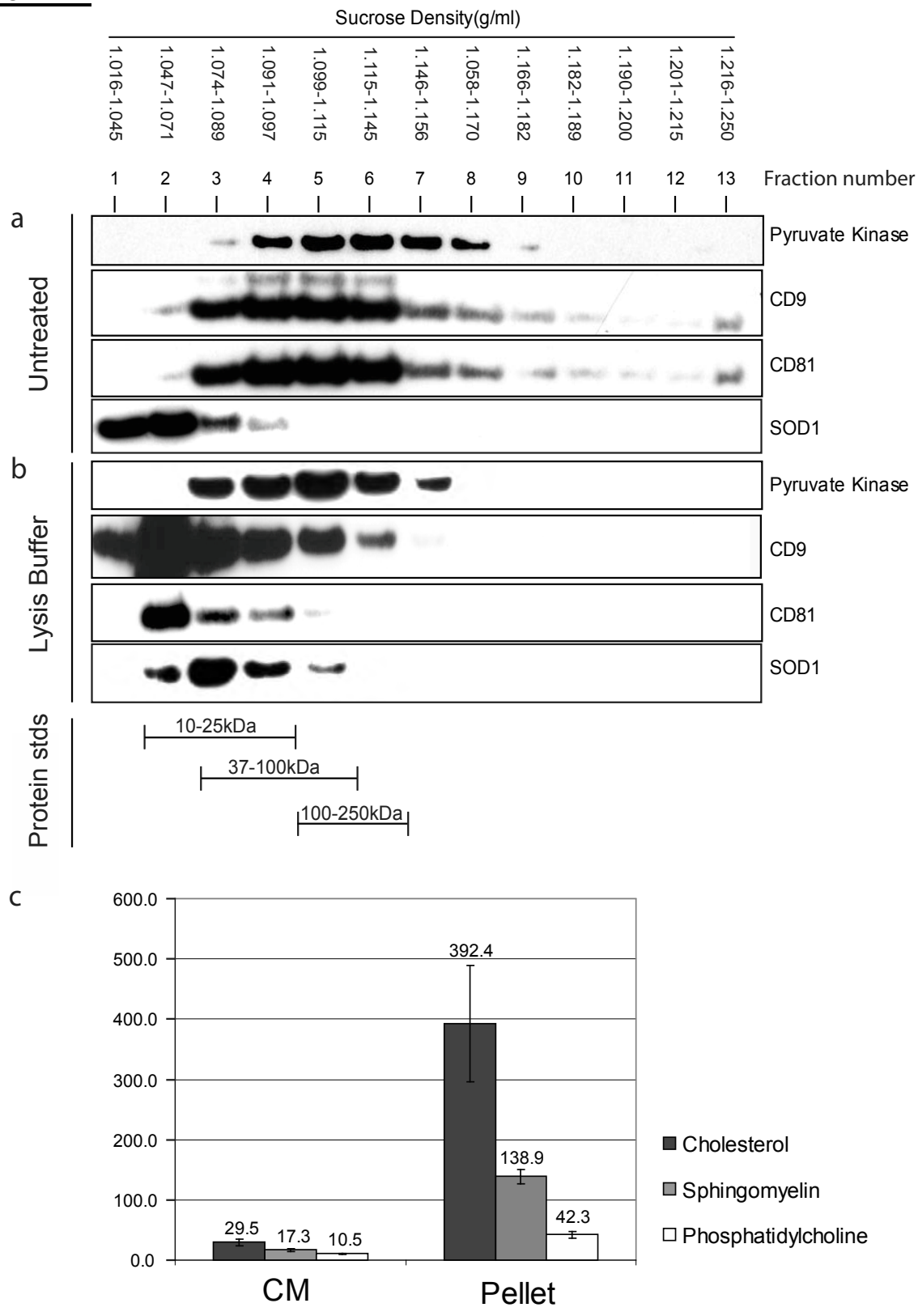

Sucrose Density(g/ml)
1.016-1.045
1.047-1.071
1.074-1.089
1.091-1.097
1.099-1.115
1.115-1.145
1.146-1.156
1.058-1.170
1.166-1.182
1.182-1.189
1.190-1.200
1.201-1.215
1.216-1.250
1 2 3 4 5 6 7 8 9 10 11 12 13 Fraction number
a
Untreated
Pyruvate Kinase
CD9
CD81
SOD1
b
Lysis Buffer
Pyruvate Kinase
CD9
CD81
SOD1
Protein stds
10-25kDa
37-100kDa
100-250kDa
c
600.0
500.0
400.0
300.0
200.0
100.0
0.0
392.4
138.9
42.3
29.5
17.3
10.5
CM
Pellet
Cholesterol
Sphingomyelin
Phosphatidylcholine

FIGURE 18

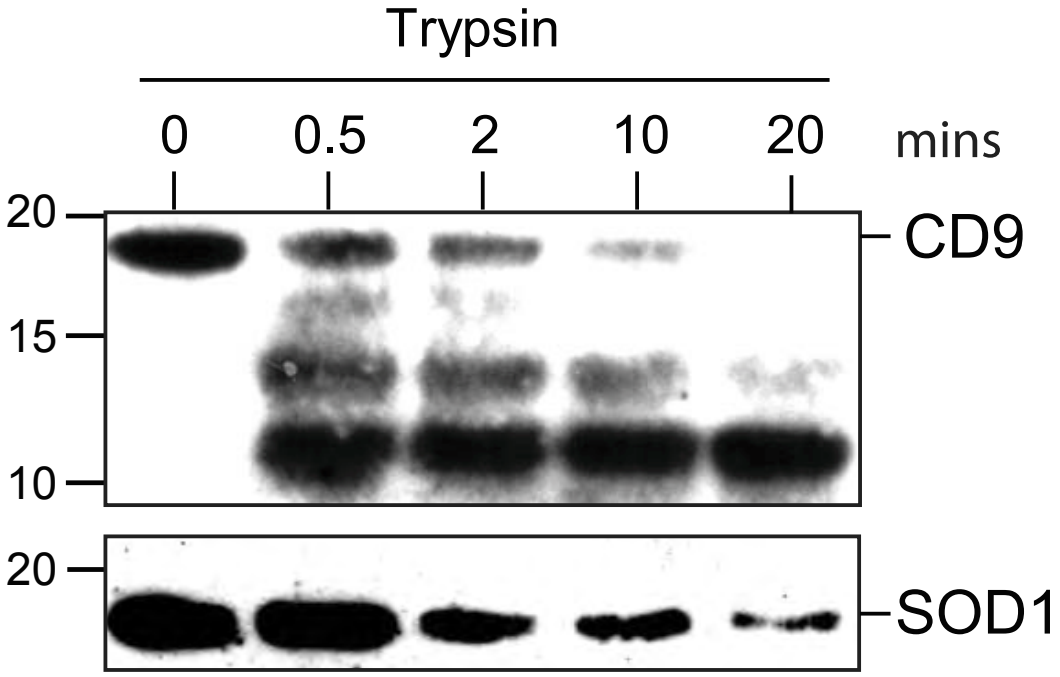


FIGURE 19

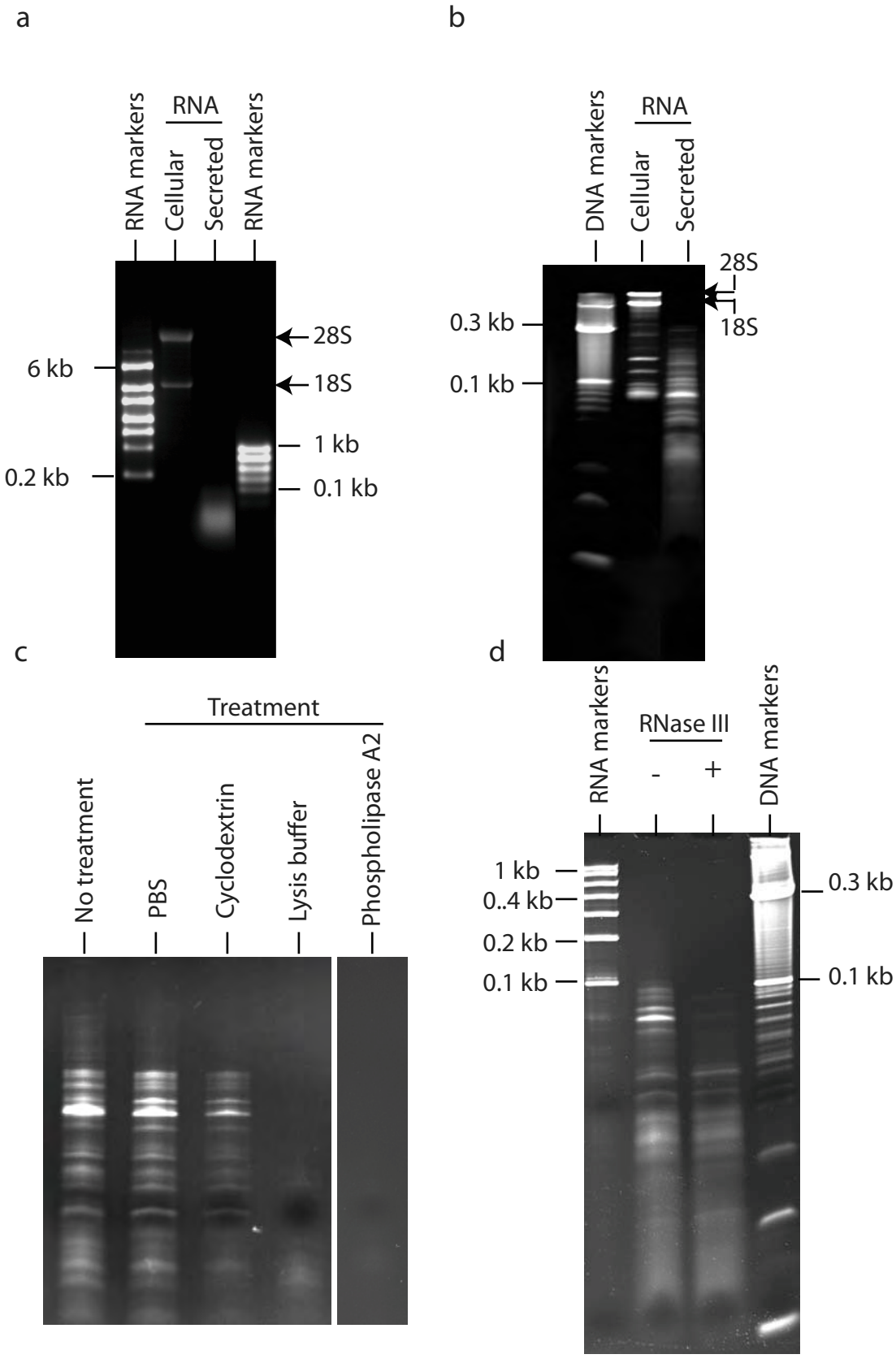
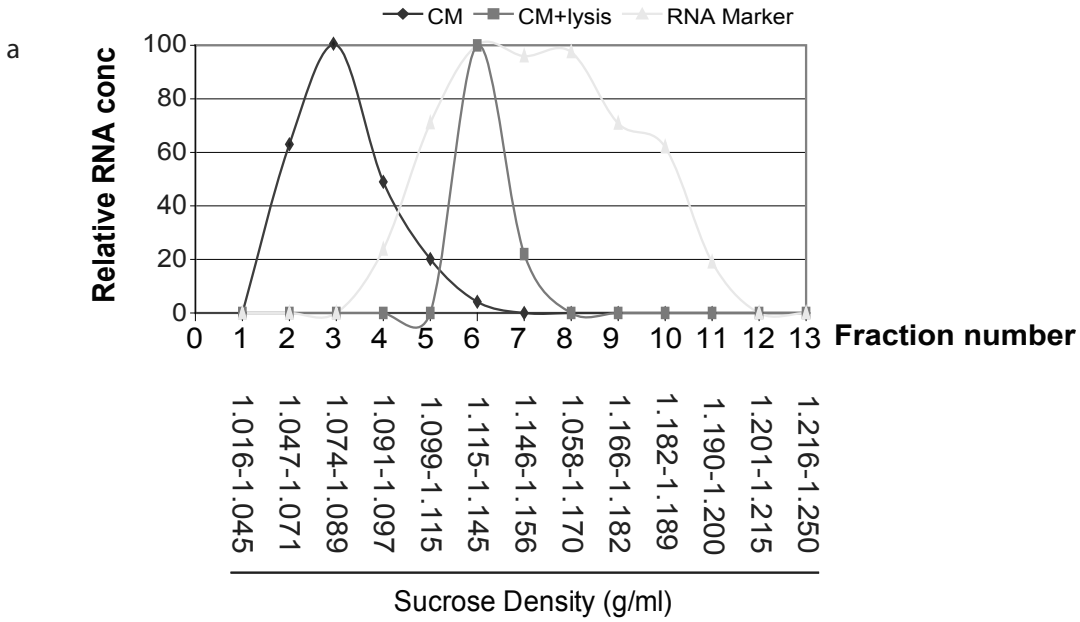

a
RNA markers
RNA
Cellular
Secreted
RNA markers
6 kb
0.2 kb
28S
18S
1 kb
0.1 kb
b
DNA markers
RNA
Cellular
Secreted
28S
18S
0.3 kb
0.1 kb
c
Treatment
No treatment
PBS
Cyclodextrin
Lysis buffer
Phospholipase A2
d
RNA markers
RNase III
-
+
DNA markers
1 kb
0..4 kb
0.2 kb
0.1 kb
0.3 kb
0.1 kb

FIGURE 20


a
CM
CM+lysis
RNA Marker
Relative RNA conc
100
80
60
40
20
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13
Fraction number
1.016-1.045
1.047-1.071
1.074-1.089
1.091-1.097
1.099-1.115
1.115-1.145
1.146-1.156
1.058-1.170
1.166-1.182
1.182-1.189
1.190-1.200
1.201-1.215
1.216-1.250
Sucrose Density (g/ml)

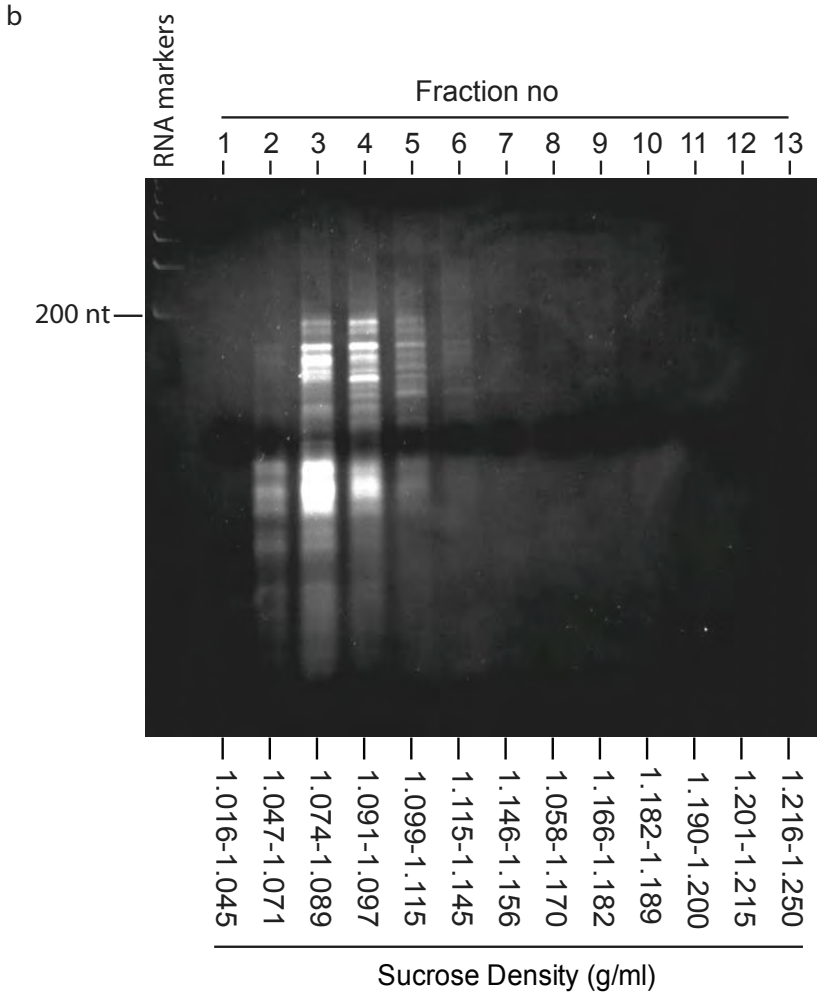

b
RNA markers
Fraction no
1 2 3 4 5 6 7 8 9 10 11 12 13
200 nt
1.016-1.045
1.047-1.071
1.074-1.089
1.091-1.097
1.099-1.115
1.115-1.145
1.146-1.156
1.058-1.170
1.166-1.182
1.182-1.189
1.190-1.200
1.201-1.215
1.216-1.250
Sucrose Density (g/ml)

FIGURE 21

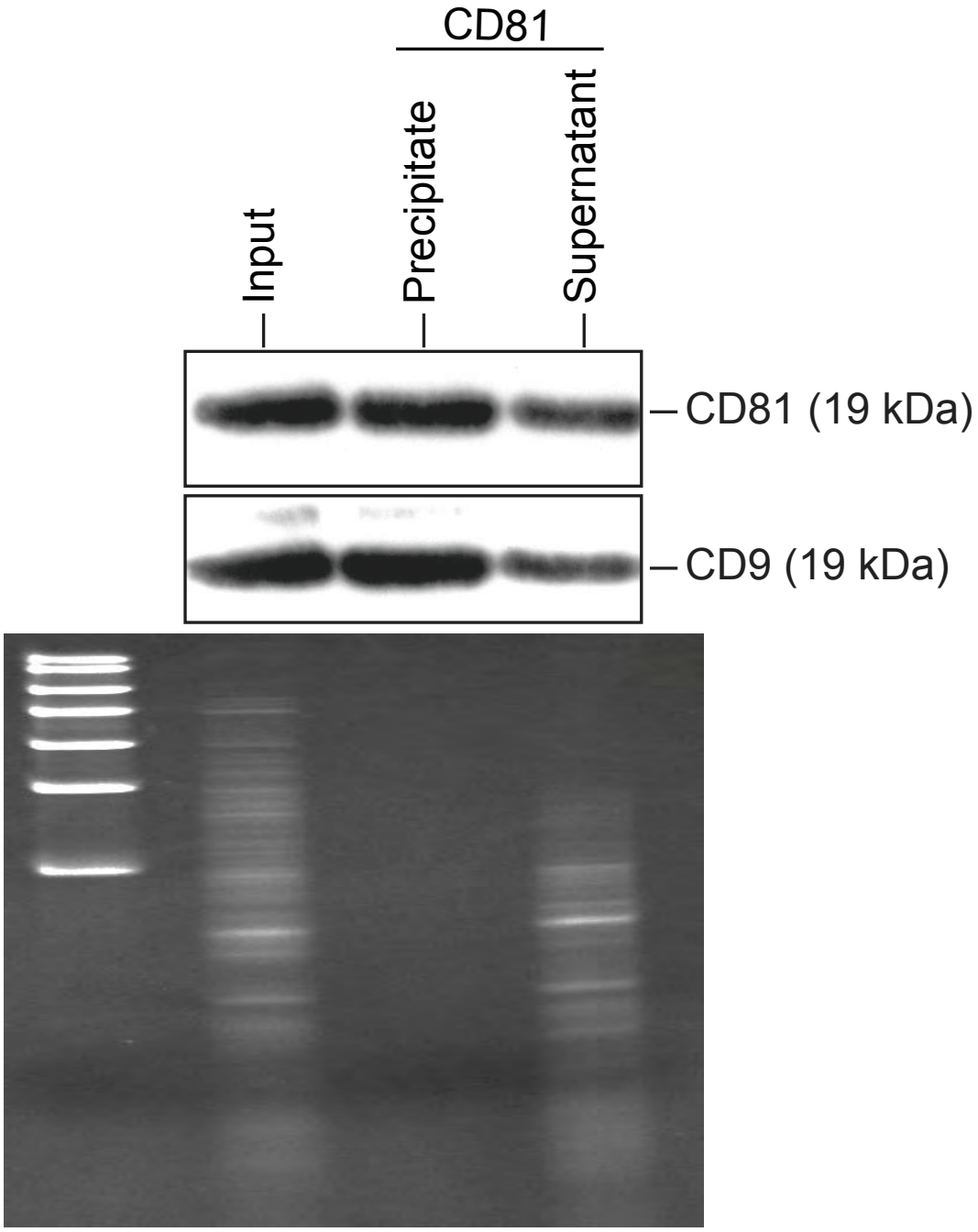


FIGURE 22

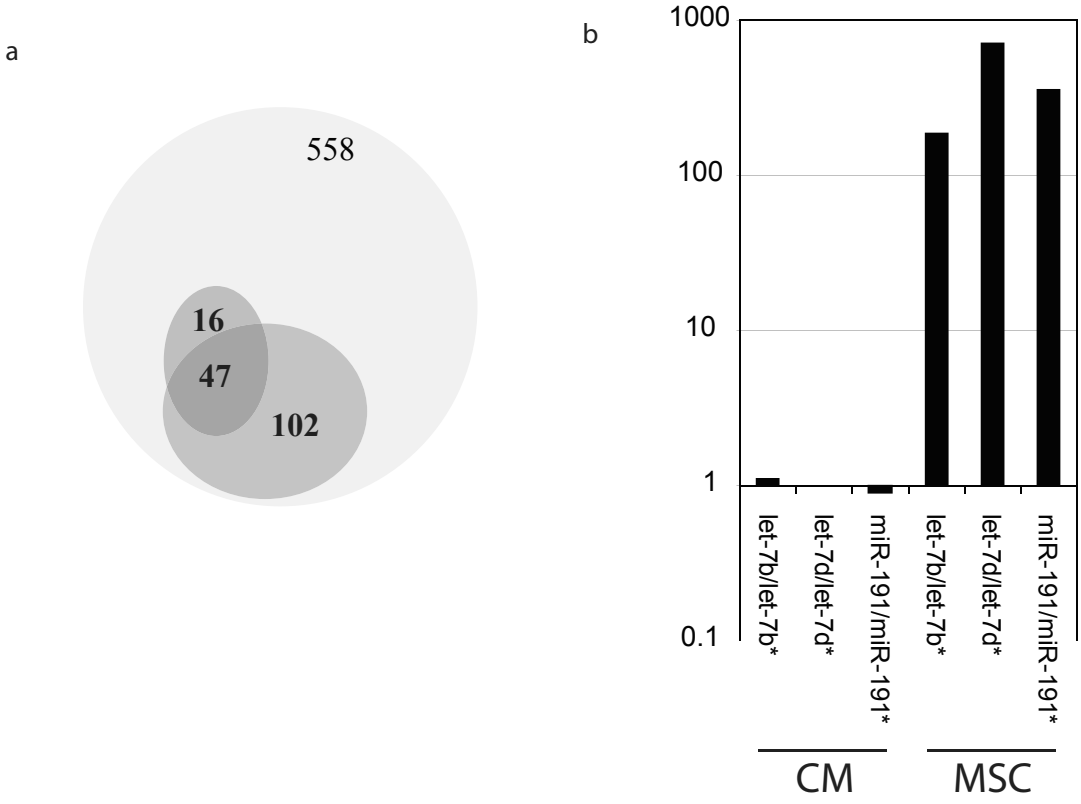
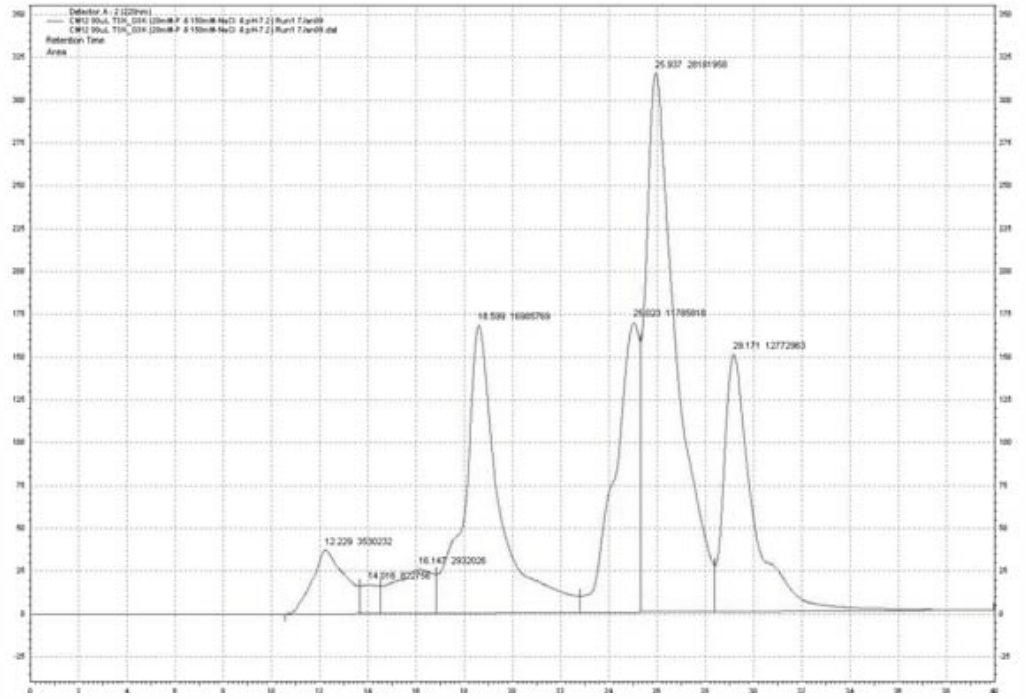

a
558
16
47
102
b
1000
100
10
1
0.1
let-7b/let-7b*
let-7d/let-7d*
miR-191/miR-191*
let-7b/let-7b*
let-7d/let-7d*
miR-191/miR-191*
CM
MSC

FIGURE 23

CM



NCM

