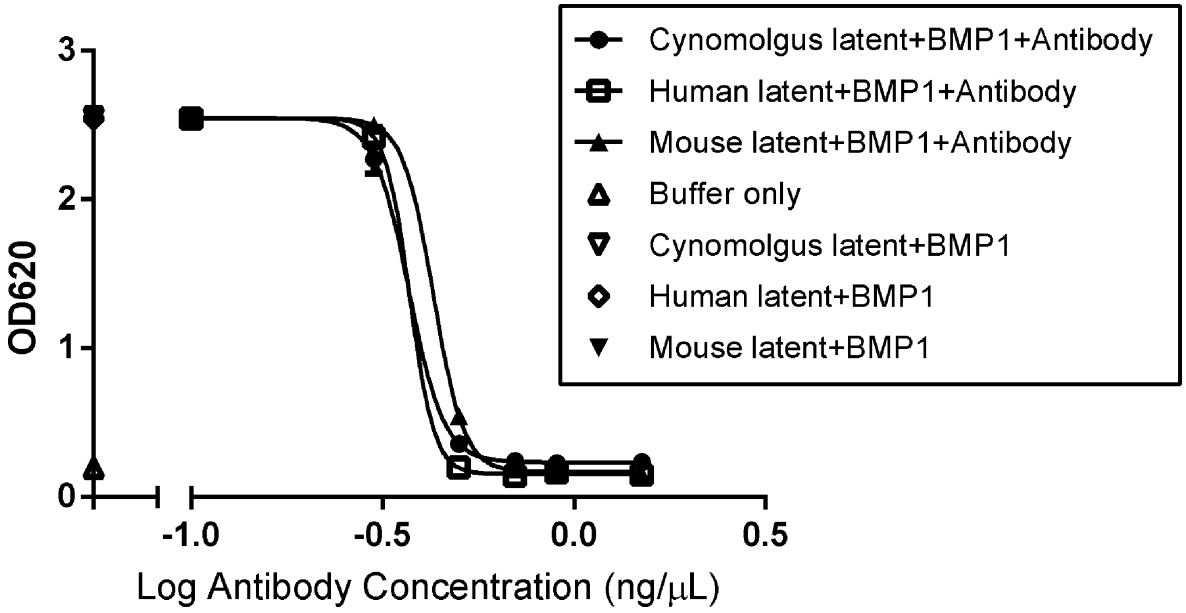
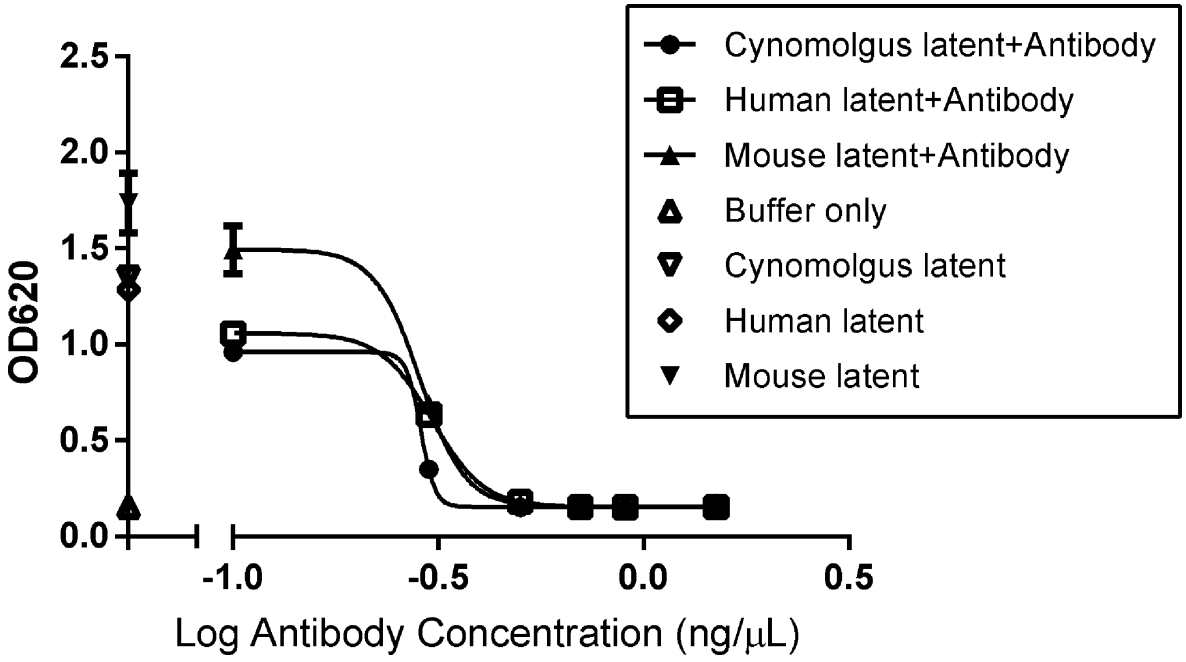
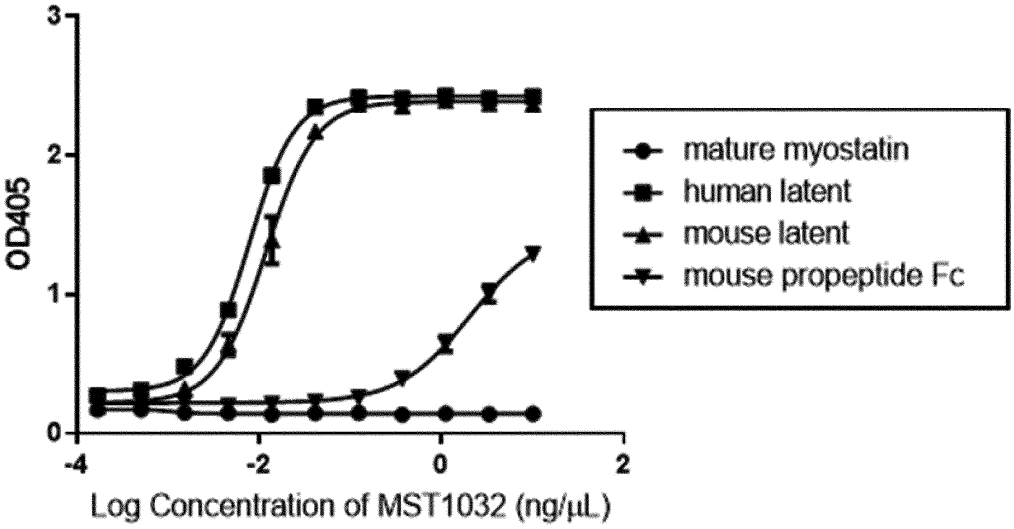
[Fig. 1]


Cynomolgus latent+BMP1+Antibody
Human latent+BMP1+Antibody
Mouse latent+BMP1+Antibody
Buffer only
Cynomolgus latent+BMP1
Human latent+BMP1
Mouse latent+BMP1
OD620
3
2
1
0
-1.0
-0.5
0.0
0.5
Log Antibody Concentration (ng/μL)

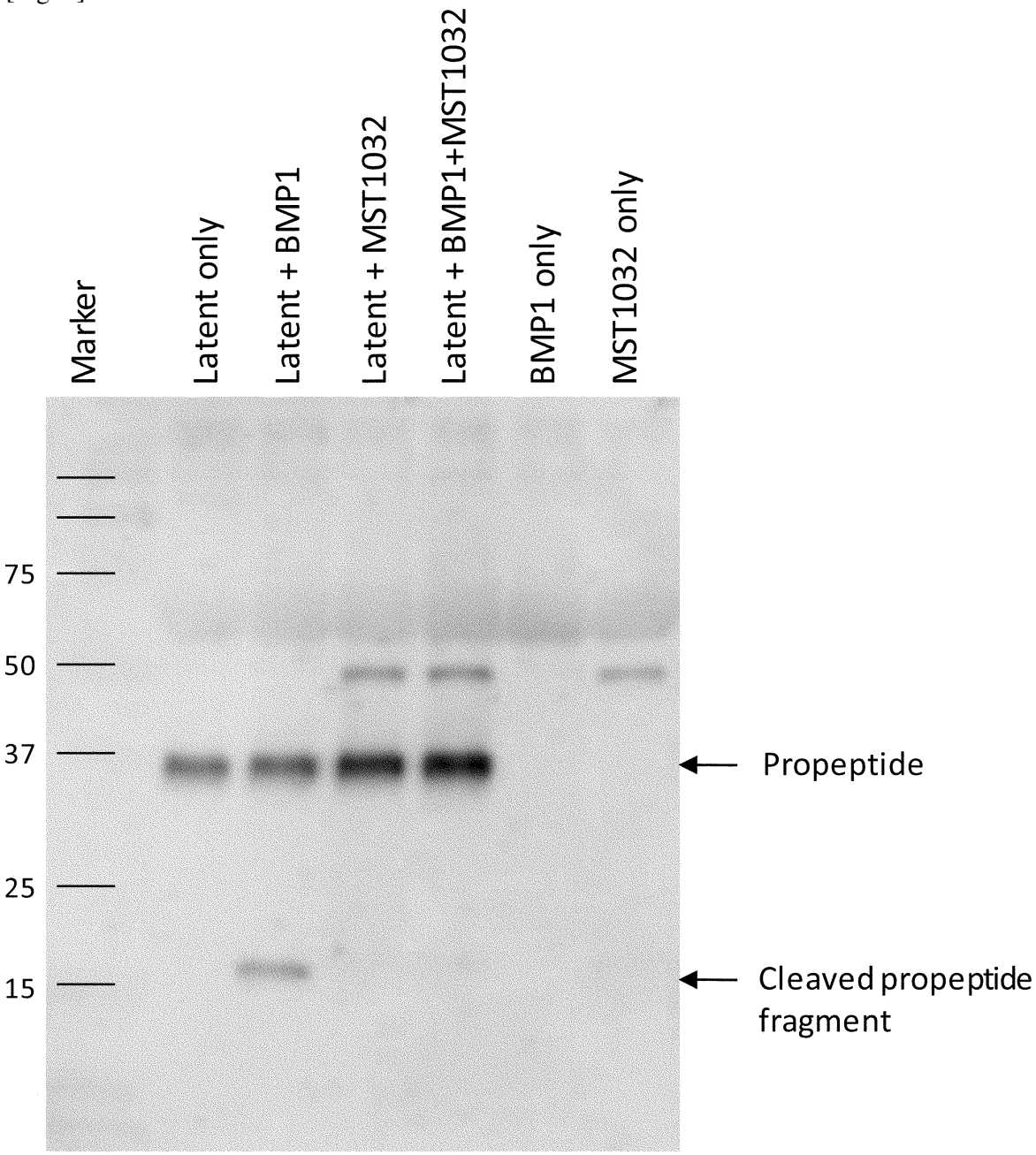
[Fig. 2]


Cynomolgus latent+Antibody
Human latent+Antibody
Mouse latent+Antibody
Buffer only
Cynomolgus latent
Human latent
Mouse latent
OD620
2.5
2.0
1.5
1.0
0.5
0.0
-1.0
-0.5
0.0
0.5
Log Antibody Concentration (ng/μL)

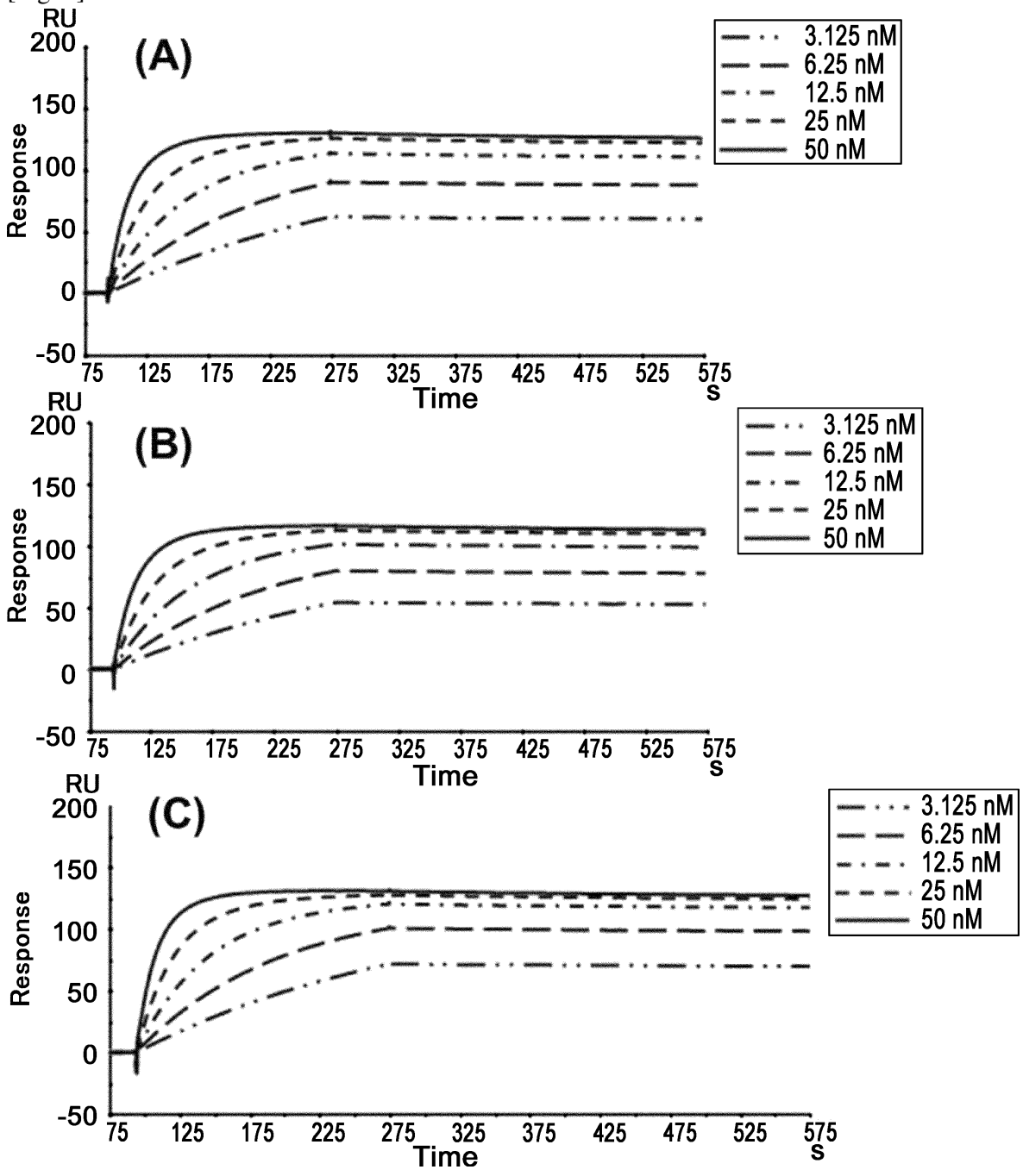
[Fig. 3]


3
2
1
0
OD405
-4
-2
0
2
Log Concentration of MST1032 (ng/μL)
mature myostatin
human latent
mouse latent
mouse propeptide Fc

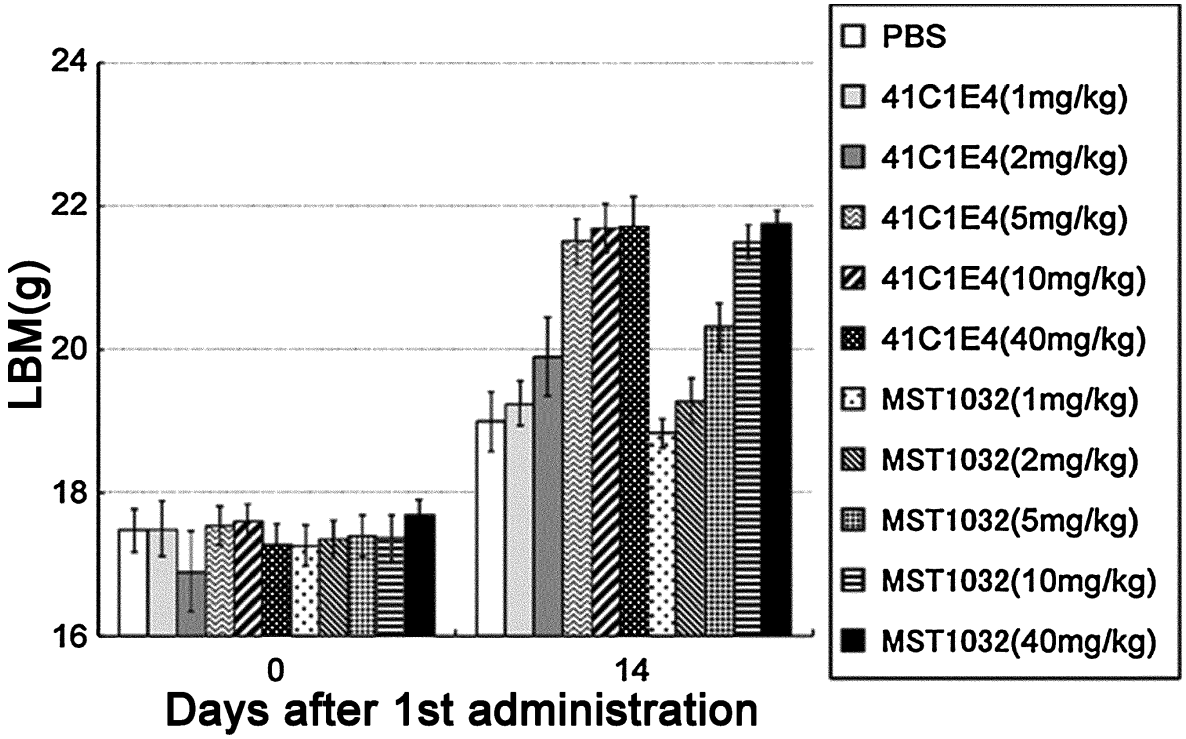
[Fig. 4]


Marker
Latent only
Latent + BMP1
Latent + MST1032
Latent + BMP1+MST1032
BMP1 only
MST1032 only
75
50
37
25
15
Propeptide
Cleaved propeptide fragment

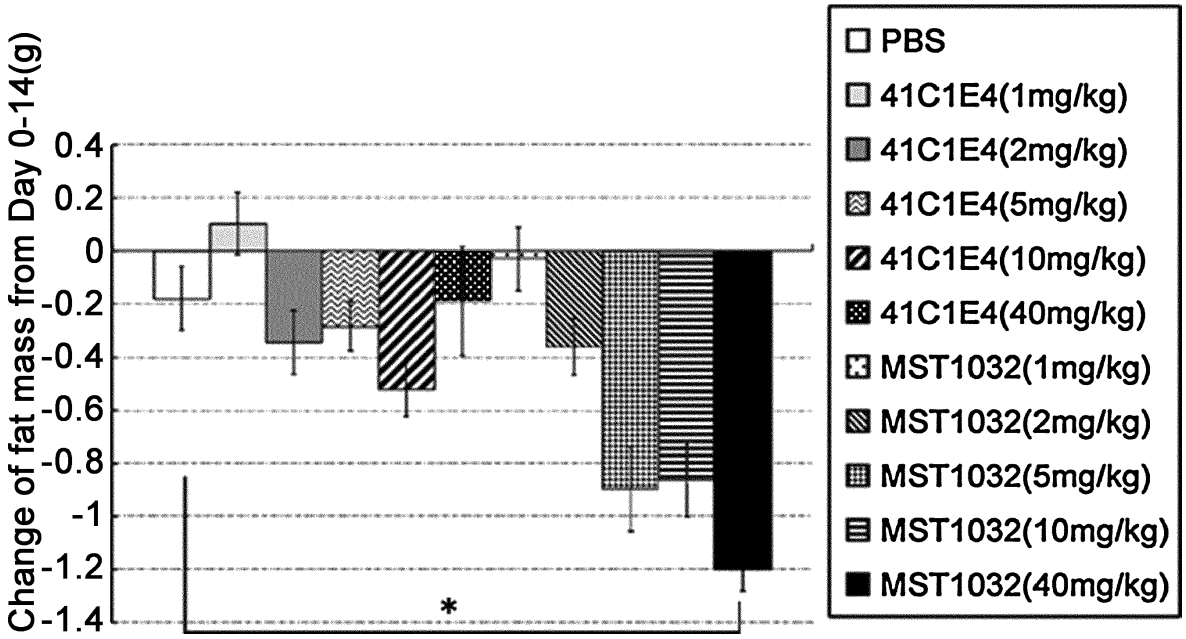
[Fig. 5]


(A)
RU
200
150
100
50
0
-50
Response
75 125 175 225 275 325 375 425 475 525 575
Time
s
3.125 nM
6.25 nM
12.5 nM
25 nM
50 nM
(B)
RU
200
150
100
50
0
-50
Response
75 125 175 225 275 325 375 425 475 525 575
Time
s
3.125 nM
6.25 nM
12.5 nM
25 nM
50 nM
(C)
RU
200
150
100
50
0
-50
Response
75 125 175 225 275 325 375 425 475 525 575
Time
s
3.125 nM
6.25 nM
12.5 nM
25 nM
50 nM

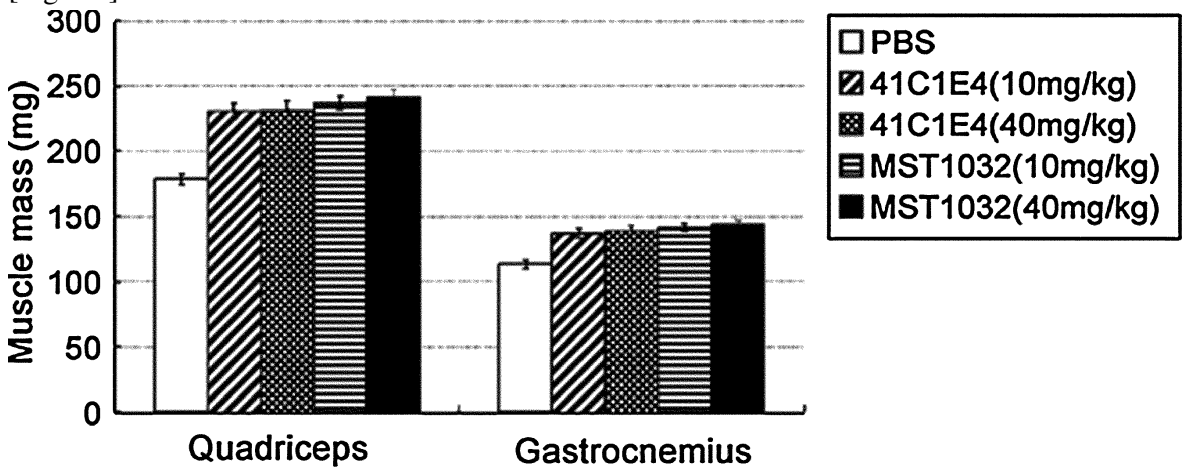
[Fig. 6A]


LBM(g)
24
22
20
18
16
0
14
Days after 1st administration
PBS
41C1E4(1mg/kg)
41C1E4(2mg/kg)
41C1E4(5mg/kg)
41C1E4(10mg/kg)
41C1E4(40mg/kg)
MST1032(1mg/kg)
MST1032(2mg/kg)
MST1032(5mg/kg)
MST1032(10mg/kg)
MST1032(40mg/kg)

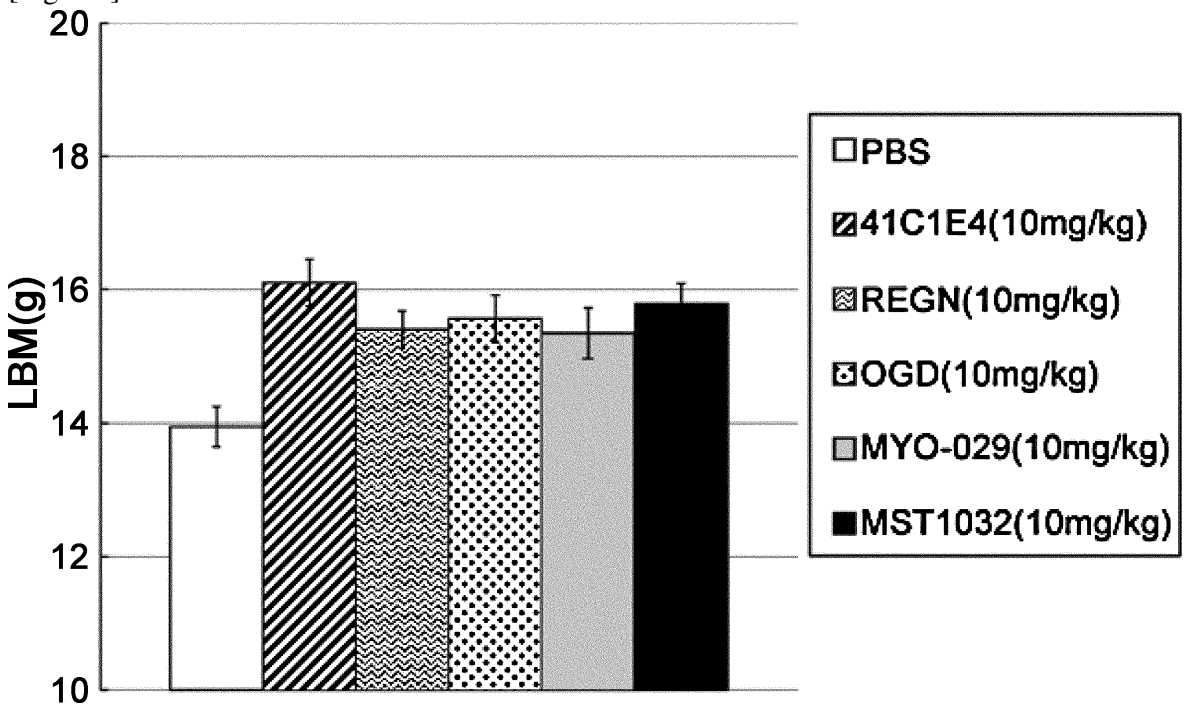
[Fig. 6B]


Change of fat mass from Day 0-14(g)
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-1.2
-1.4
*
PBS
41C1E4(1mg/kg)
41C1E4(2mg/kg)
41C1E4(5mg/kg)
41C1E4(10mg/kg)
41C1E4(40mg/kg)
MST1032(1mg/kg)
MST1032(2mg/kg)
MST1032(5mg/kg)
MST1032(10mg/kg)
MST1032(40mg/kg)

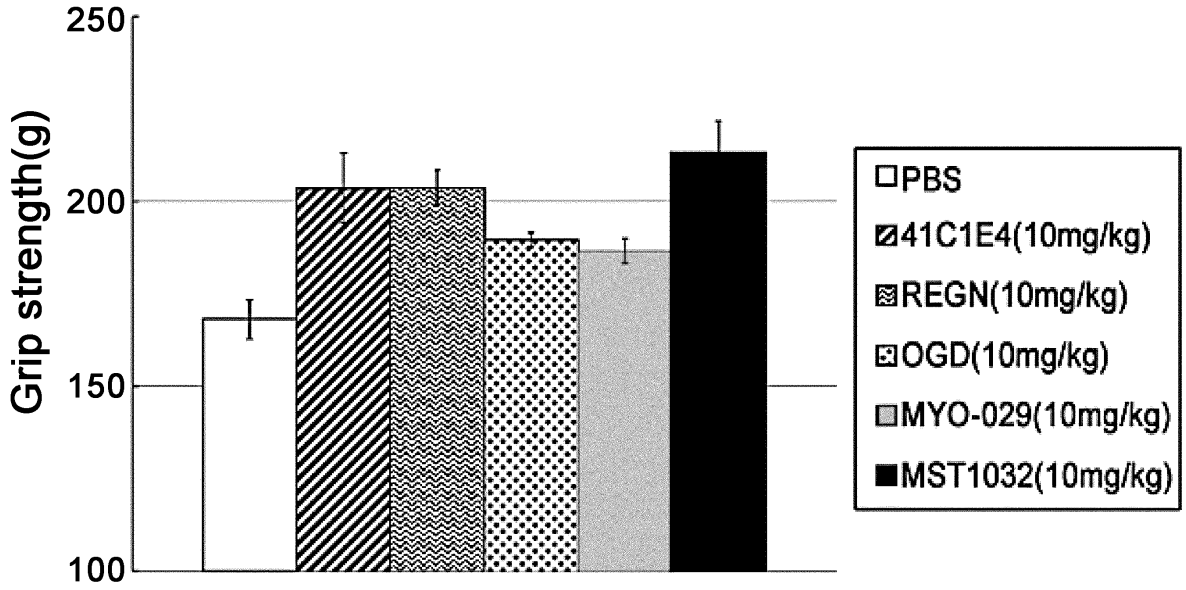
[Fig. 6C]



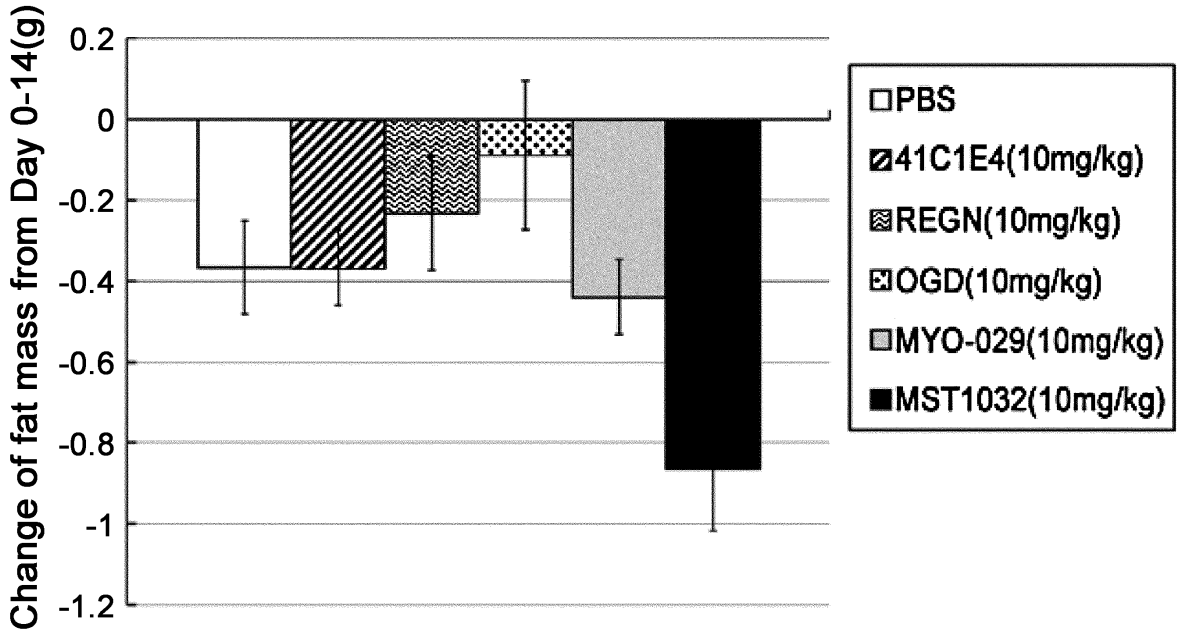
[Fig. 7A]



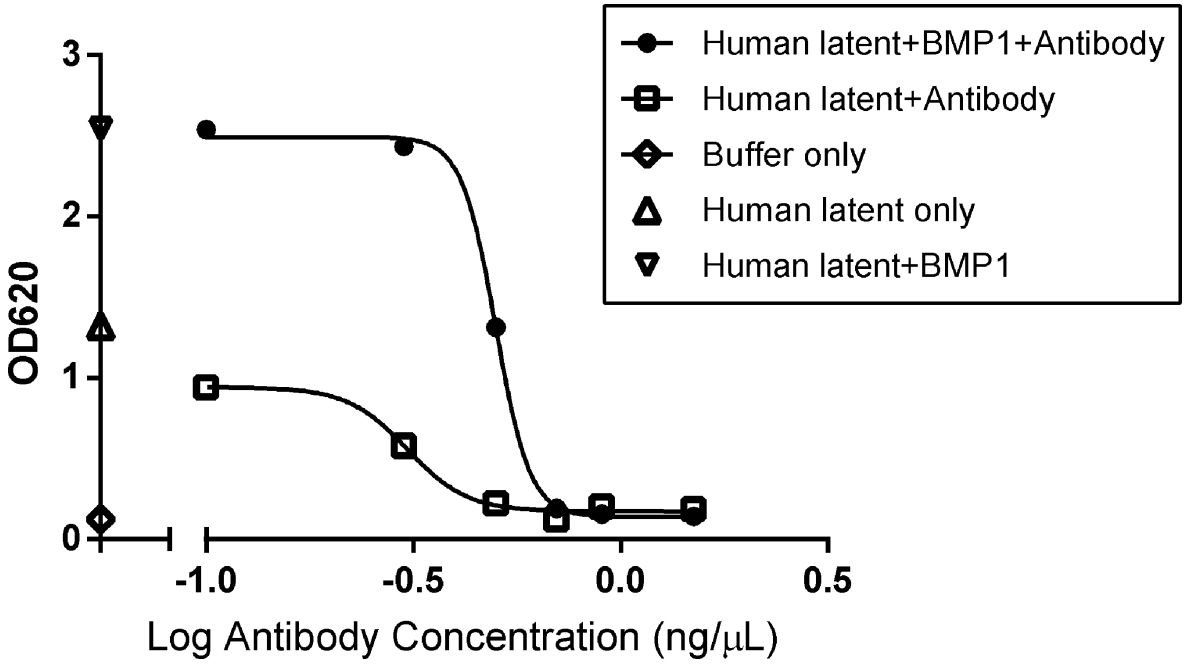
[Fig. 7B]



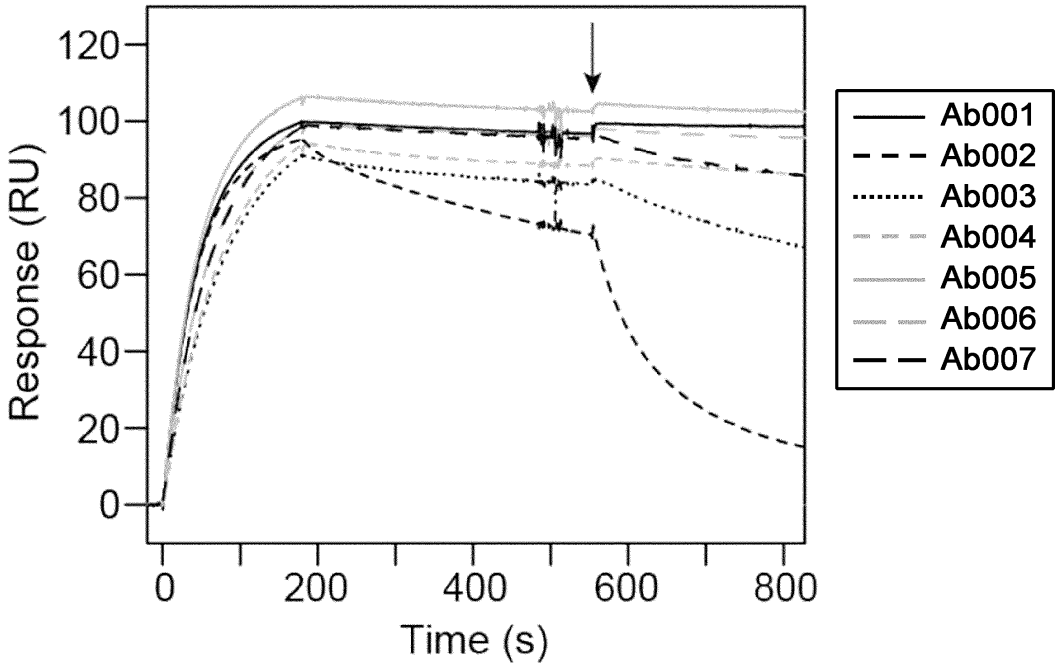
[Fig. 7C]


Change of fat mass from Day 0-14(g)
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-1.2
PBS
41C1E4(10mg/kg)
REGN(10mg/kg)
OGD(10mg/kg)
MYO-029(10mg/kg)
MST1032(10mg/kg)

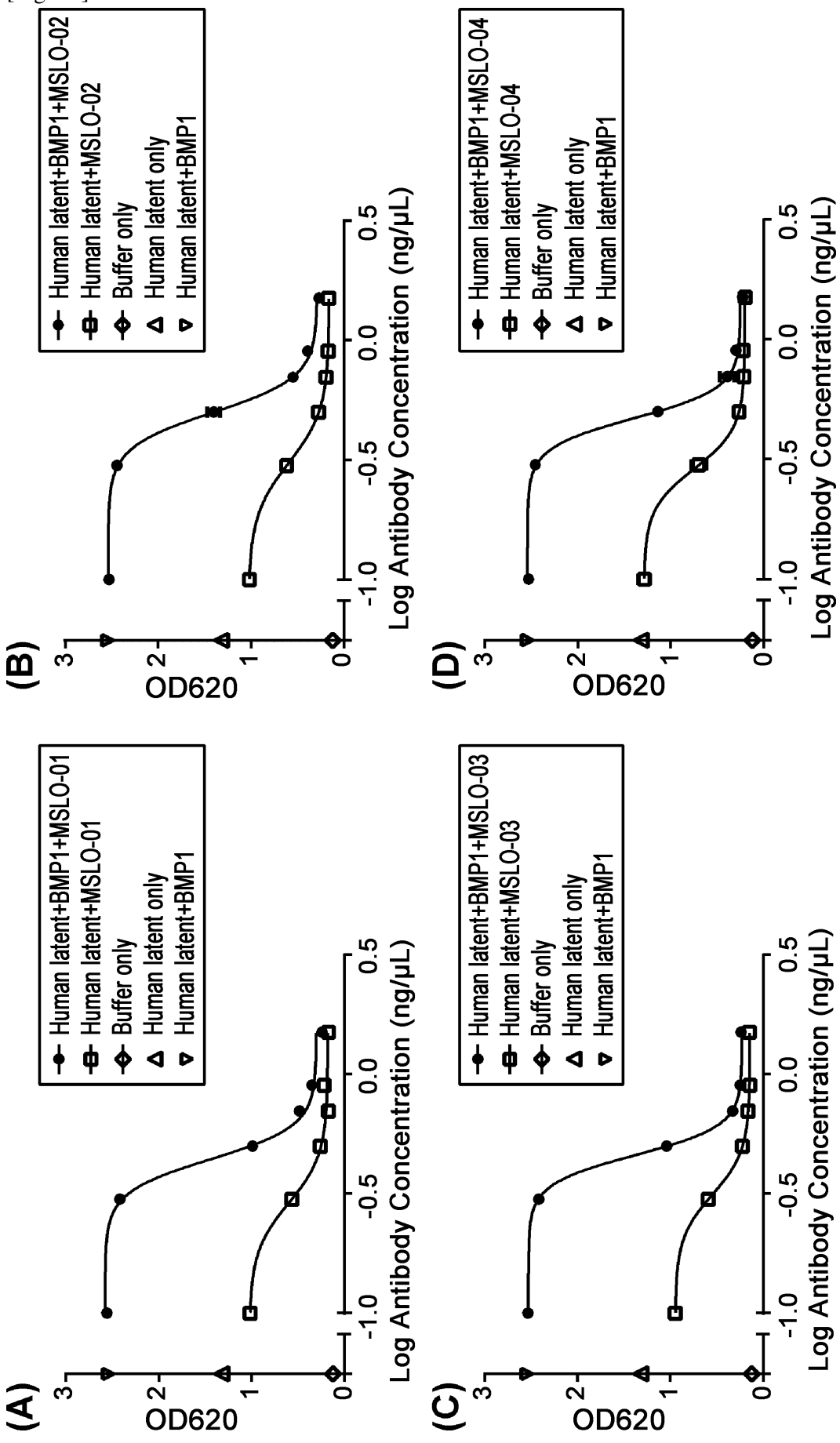
[Fig. 8]


Human latent+BMP1+Antibody
Human latent+Antibody
Buffer only
Human latent only
Human latent+BMP1
OD620
3
2
1
0
-1.0
-0.5
0.0
0.5
Log Antibody Concentration (ng/μL)

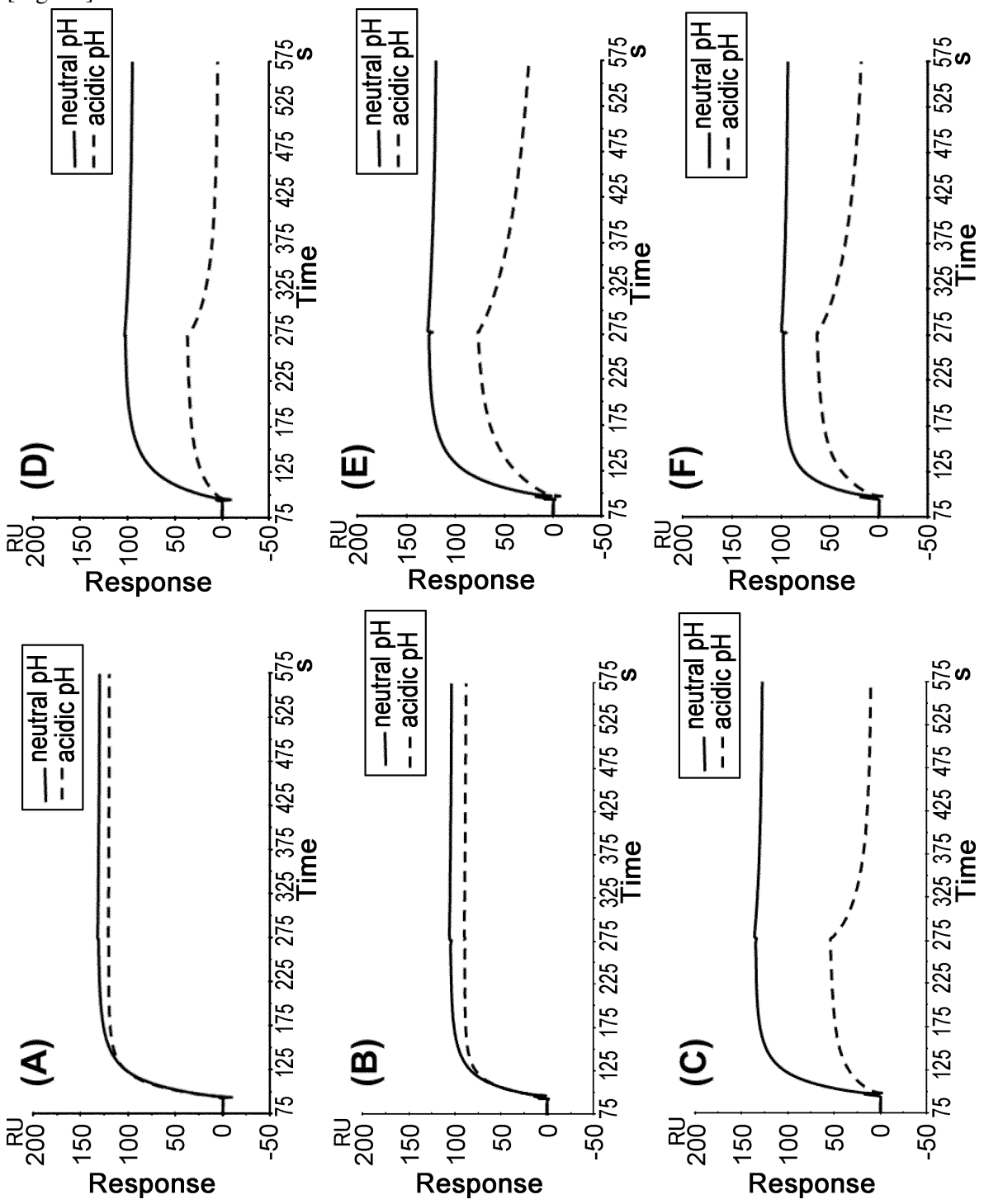
[Fig. 9]


120
100
80
60
40
20
0
Response (RU)
0
200
400
600
800
Time (s)
Ab001
Ab002
Ab003
Ab004
Ab005
Ab006
Ab007

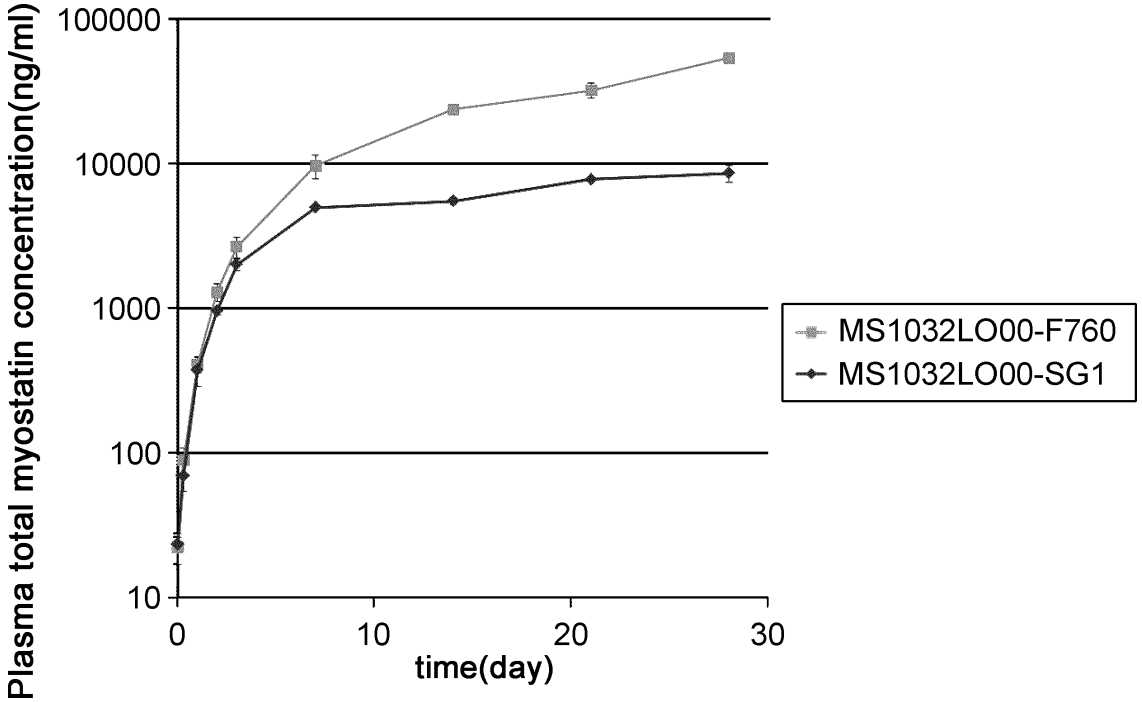
[Fig. 10]


(A)
Human latent+BMP1+MSLO-01
Human latent+MSLO-01
Buffer only
Human latent only
Human latent+BMP1
OD620
Log Antibody Concentration (ng/μL)
(B)
Human latent+BMP1+MSLO-02
Human latent+MSLO-02
Buffer only
Human latent only
Human latent+BMP1
OD620
Log Antibody Concentration (ng/μL)
(C)
Human latent+BMP1+MSLO-03
Human latent+MSLO-03
Buffer only
Human latent only
Human latent+BMP1
OD620
Log Antibody Concentration (ng/μL)
(D)
Human latent+BMP1+MSLO-04
Human latent+MSLO-04
Buffer only
Human latent only
Human latent+BMP1
OD620
Log Antibody Concentration (ng/μL)

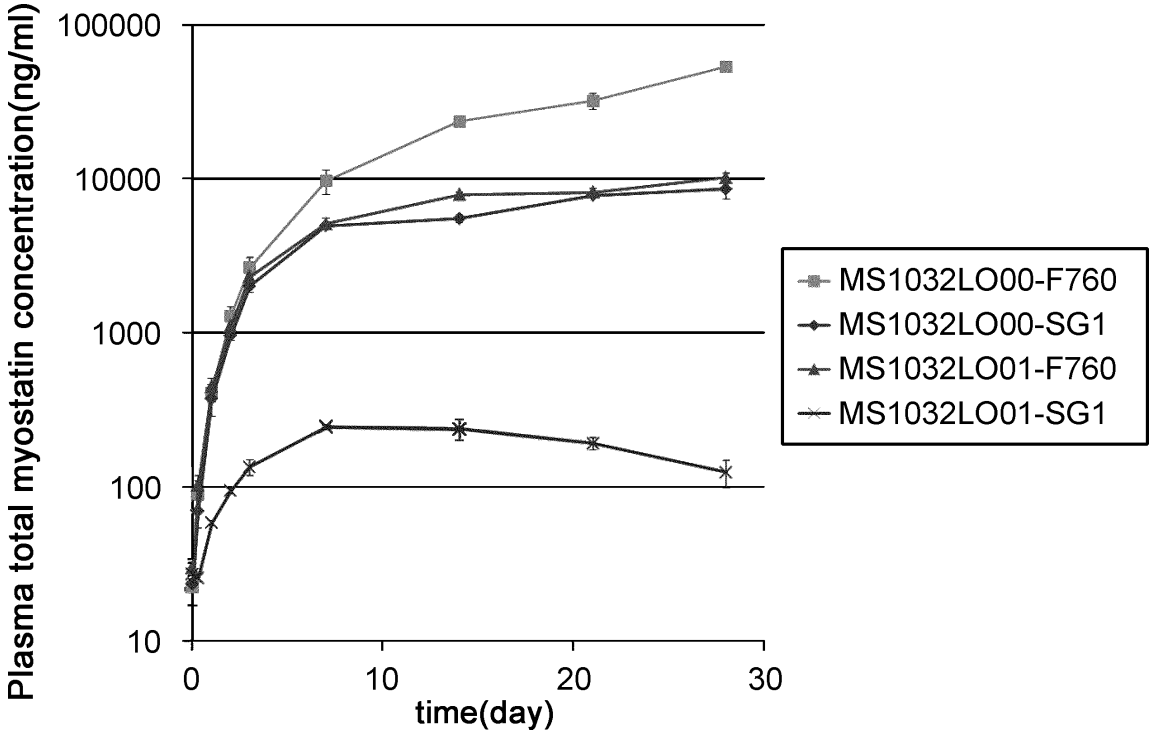
[Fig. 11]


(A)
(B)
(C)
(D)
(E)
(F)
neutral pH
acidic pH
RU
Response
Time
s
200
150
100
50
0
-50
75
125
175
225
275
325
375
425
475
525
575

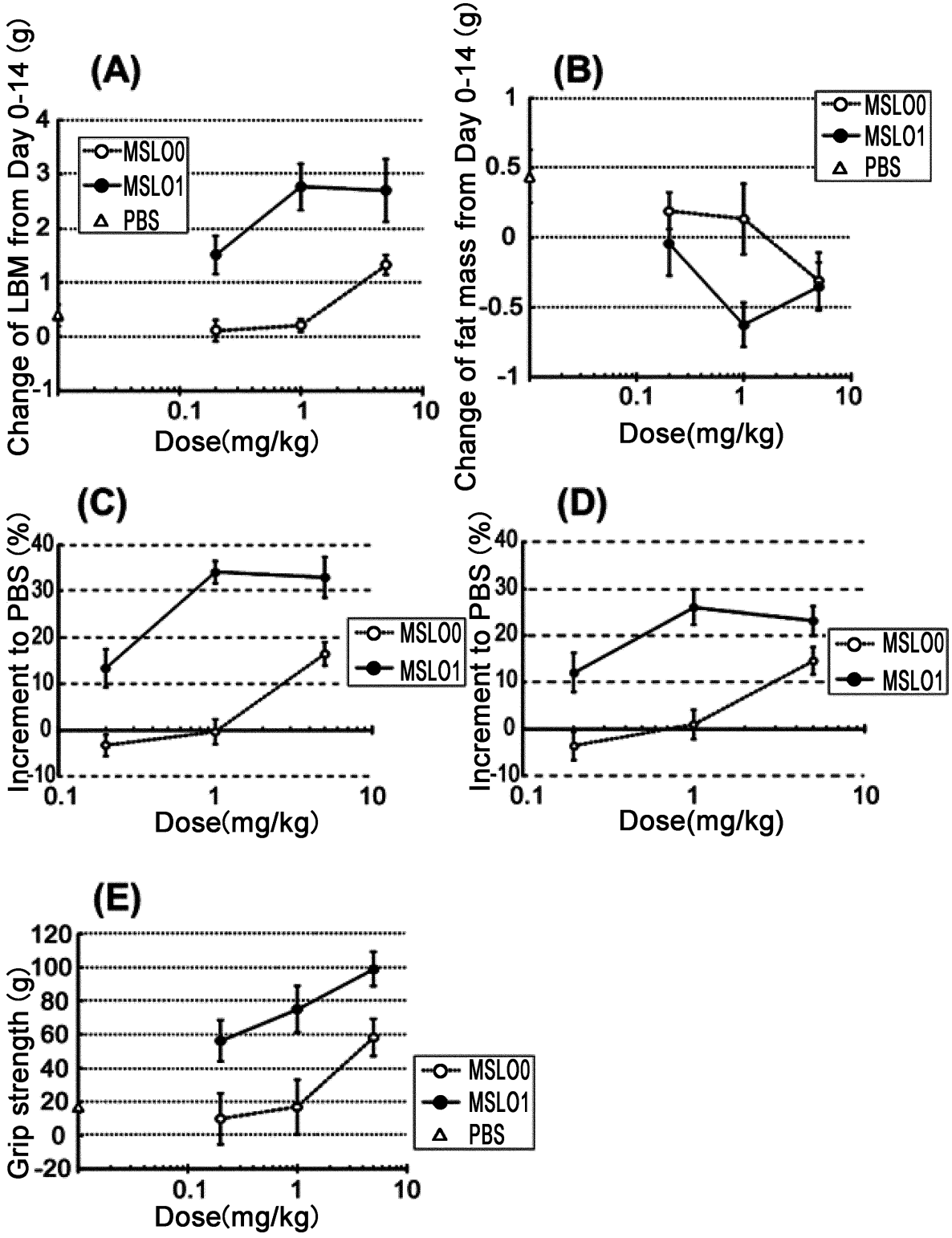
[Fig. 12]


Plasma total myostatin concentration(ng/ml)
100000
10000
1000
100
10
0
10
20
30
time(day)
MS1032LO00-F760
MS1032LO00-SG1

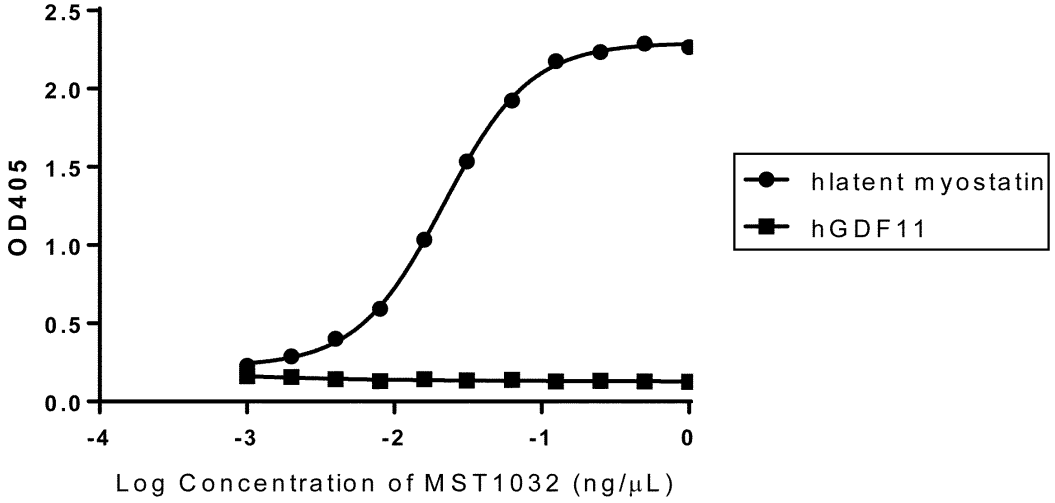
[Fig. 13]


Plasma total myostatin concentration(ng/ml)
100000
10000
1000
100
10
0
10
20
30
time(day)
MS1032LO00-F760
MS1032LO00-SG1
MS1032LO01-F760
MS1032LO01-SG1

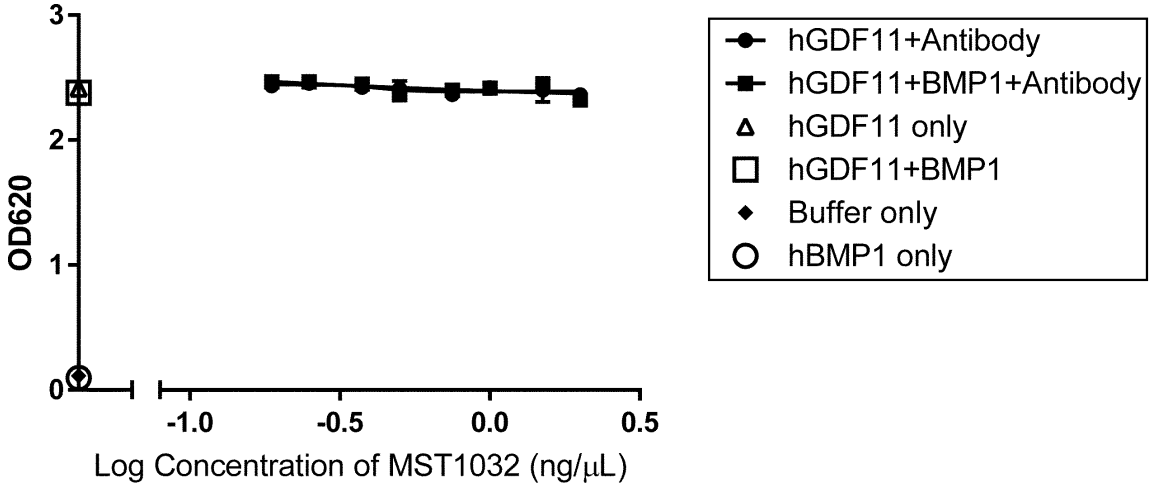
[Fig. 14]


(A)
Change of LBM from Day 0-14 (g)
4
3
2
1
0
-1
MSLO0
MSLO1
PBS
0.1
1
10
Dose(mg/kg)
(B)
Change of fat mass from Day 0-14 (g)
1
0.5
0
-0.5
-1
MSLO0
MSLO1
PBS
0.1
1
10
Dose(mg/kg)
(C)
Increment to PBS (%)
40
30
20
10
0
-10
MSLO0
MSLO1
0.1
1
10
Dose(mg/kg)
(D)
Increment to PBS (%)
40
30
20
10
0
-10
MSLO0
MSLO1
0.1
1
10
Dose(mg/kg)
(E)
Grip strength (g)
120
100
80
60
40
20
0
-20
MSLO0
MSLO1
PBS
0.1
1
10
Dose(mg/kg)

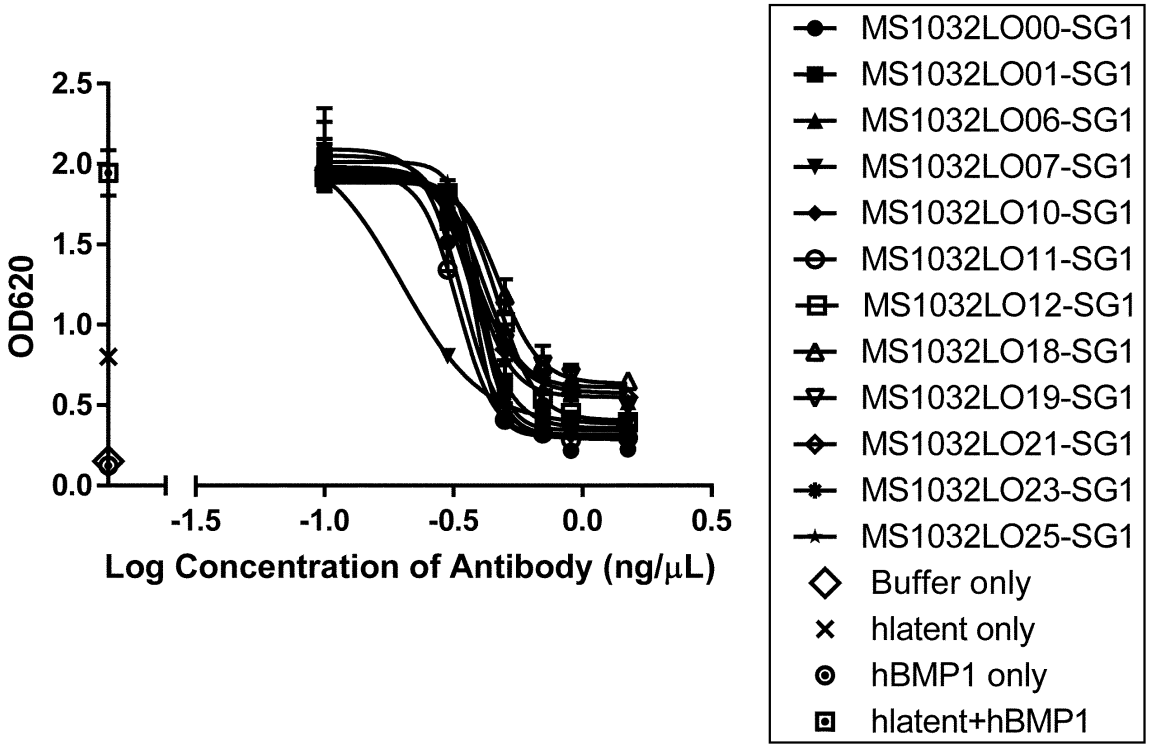
[Fig. 15]



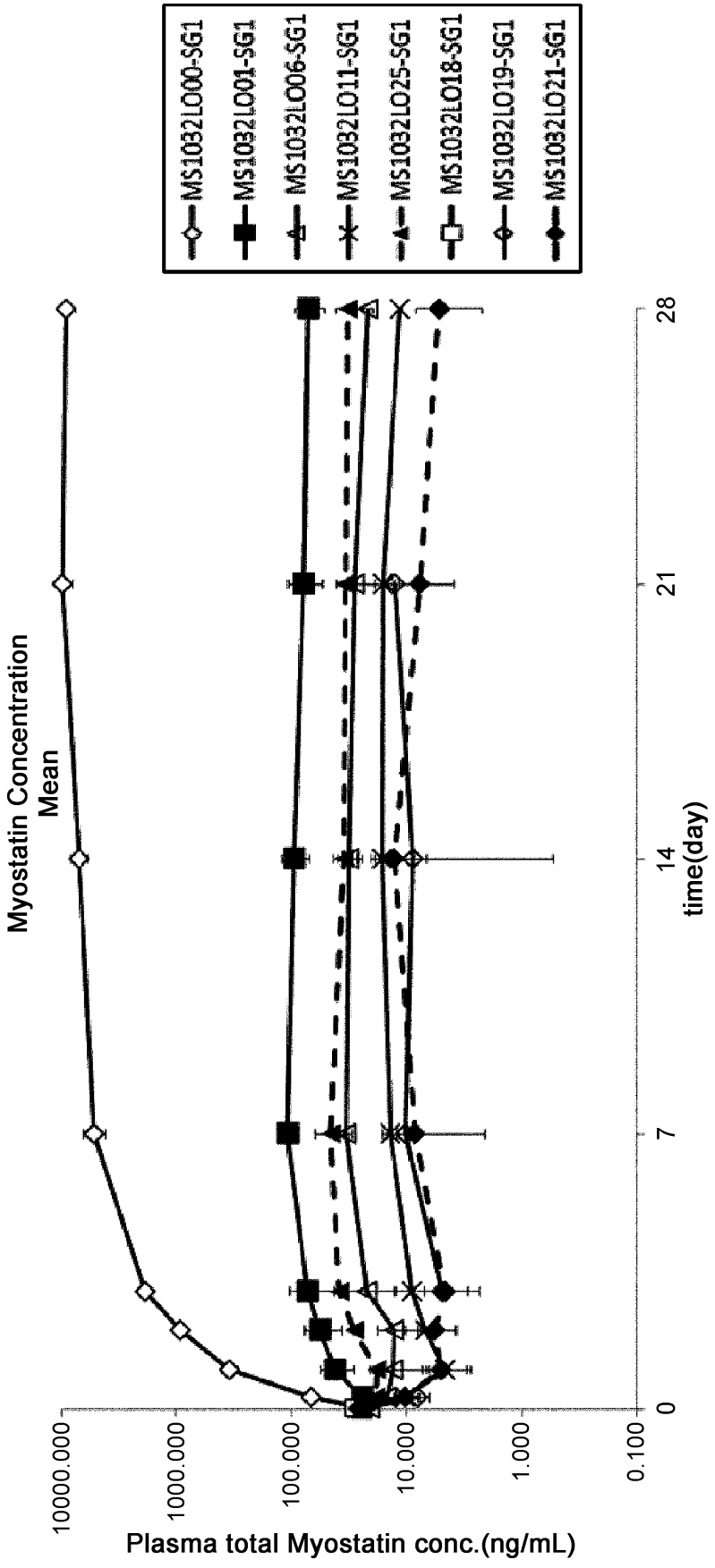
[Fig. 16]



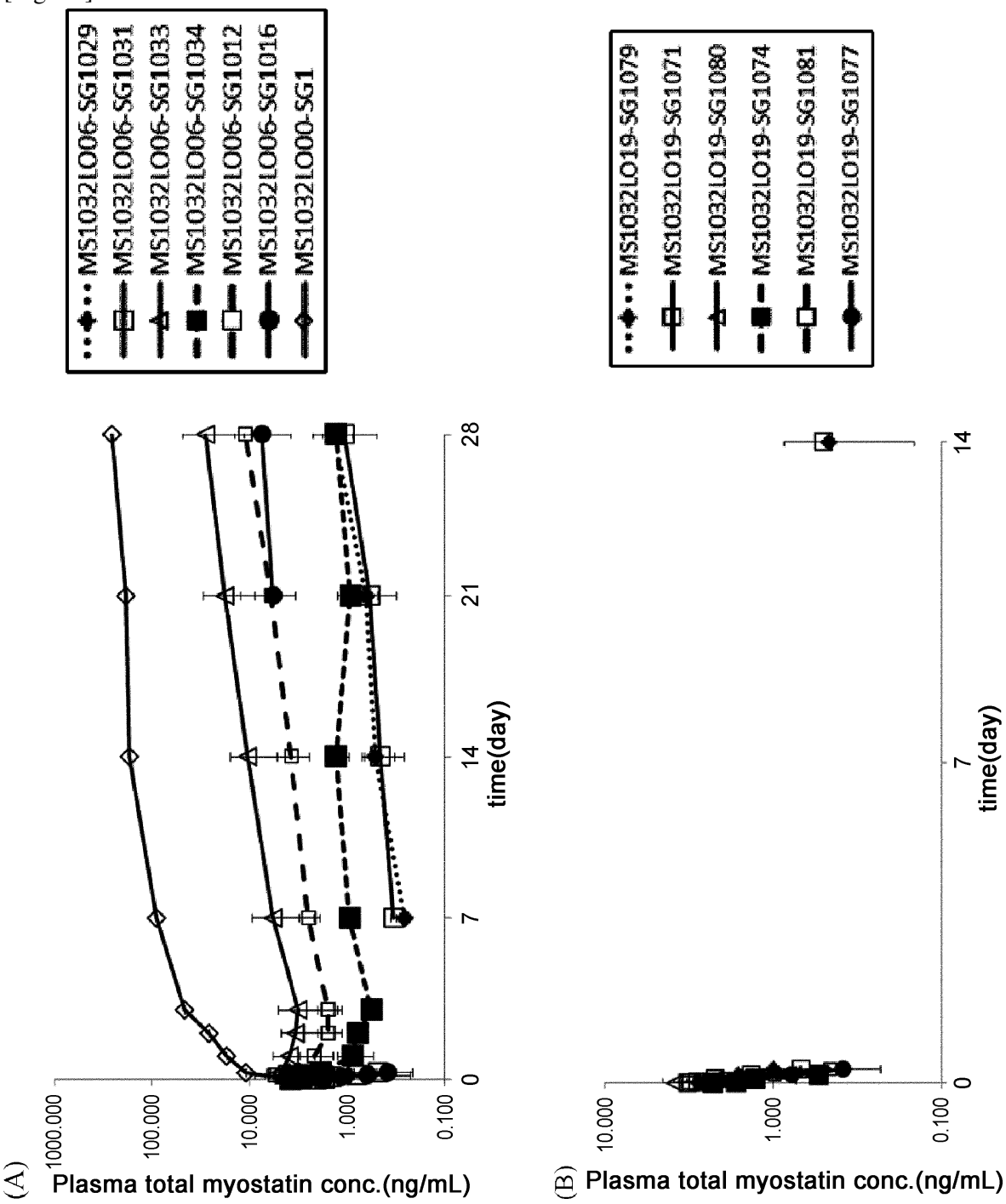
[Fig. 17]



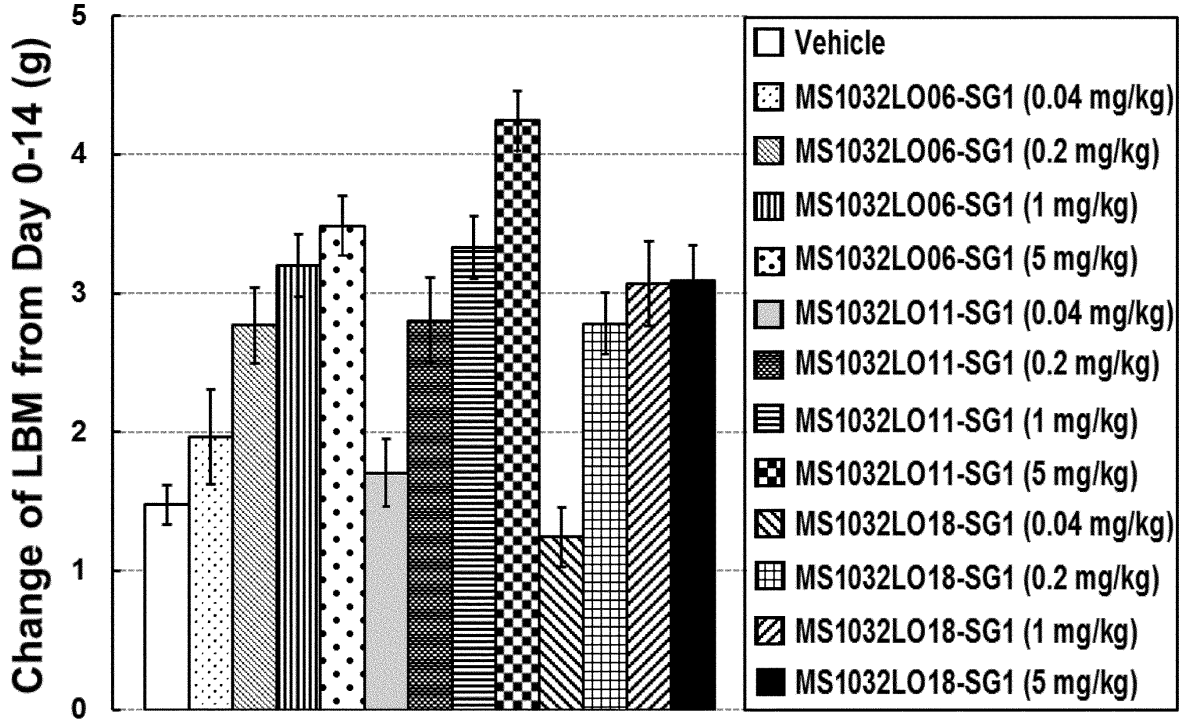
[Fig. 18]


MS1032LO00-SG1
MS1032LO01-SG1
MS1032LO06-SG1
MS1032LO11-SG1
MS1032LO25-SG1
MS1032LO18-SG1
MS1032LO19-SG1
MS1032LO21-SG1
Myostatin Concentration
Mean
Plasma total Myostatin conc.(ng/mL)
10000.000
1000.000
100.000
10.000
1.000
0.100
0
7
14
21
28
time(day)

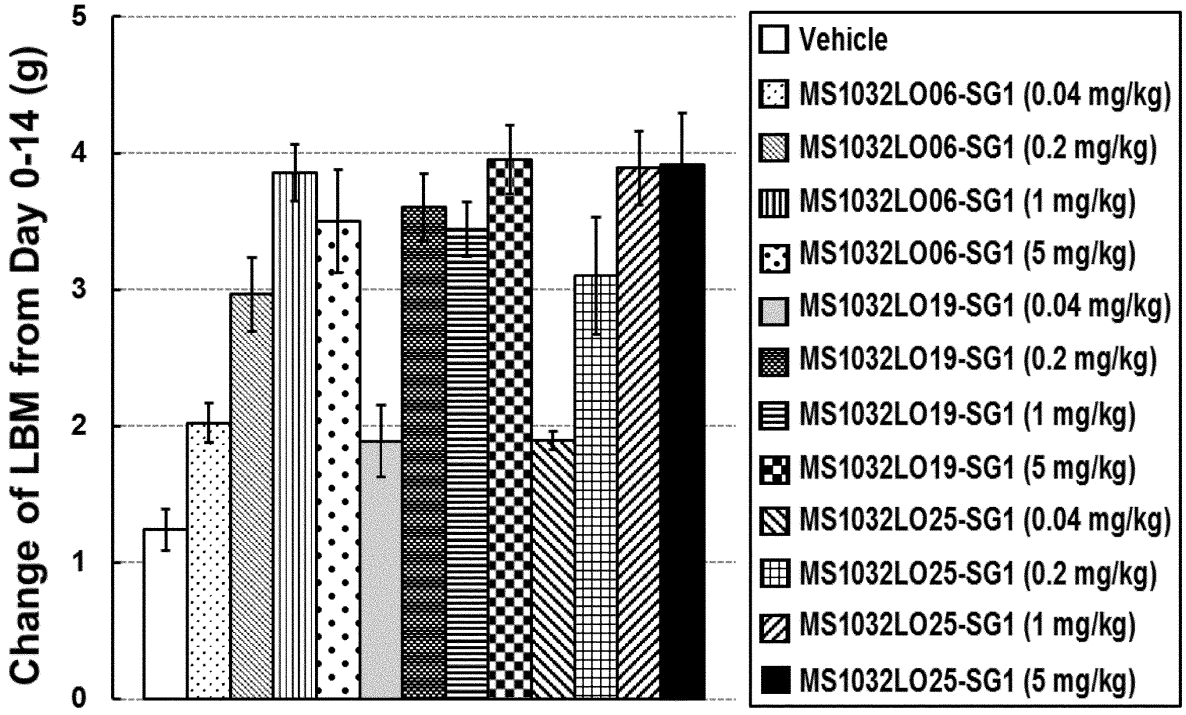
[Fig. 19]


MS1032LO06-SG1029
MS1032LO06-SG1031
MS1032LO06-SG1033
MS1032LO06-SG1034
MS1032LO06-SG1012
MS1032LO06-SG1016
MS1032LO00-SG1
1000.000
100.000
10.000
1.000
0.100
0
7
14
21
28
time(day)
(A)
Plasma total myostatin conc.(ng/mL)
MS1032LO19-SG1079
MS1032LO19-SG1071
MS1032LO19-SG1080
MS1032LO19-SG1074
MS1032LO19-SG1081
MS1032LO19-SG1077
10.000
1.000
0.100
0
7
14
time(day)
(B)
Plasma total myostatin conc.(ng/mL)

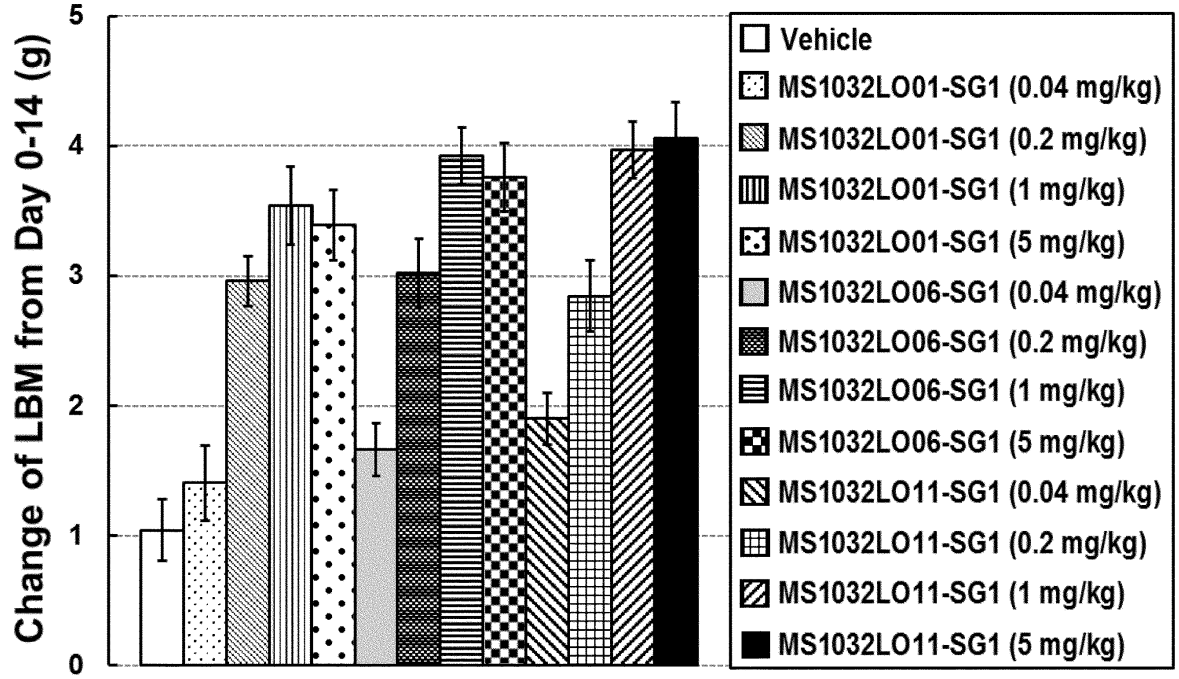
[Fig. 20A]



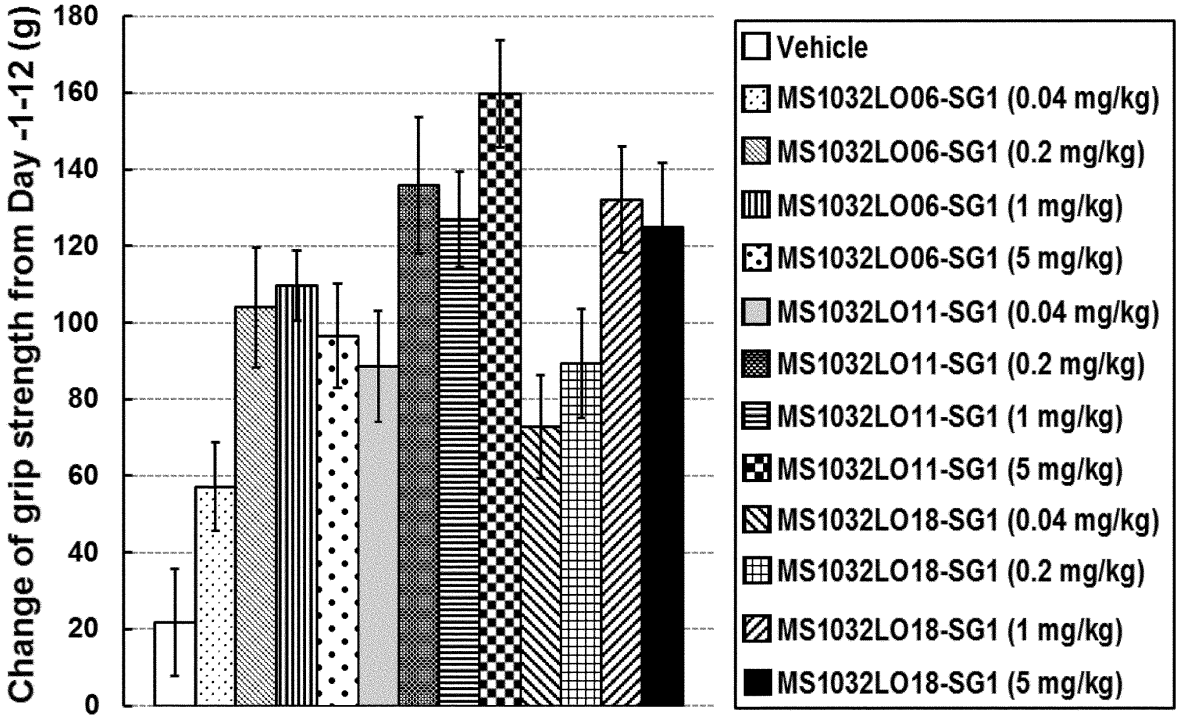
[Fig. 20B]



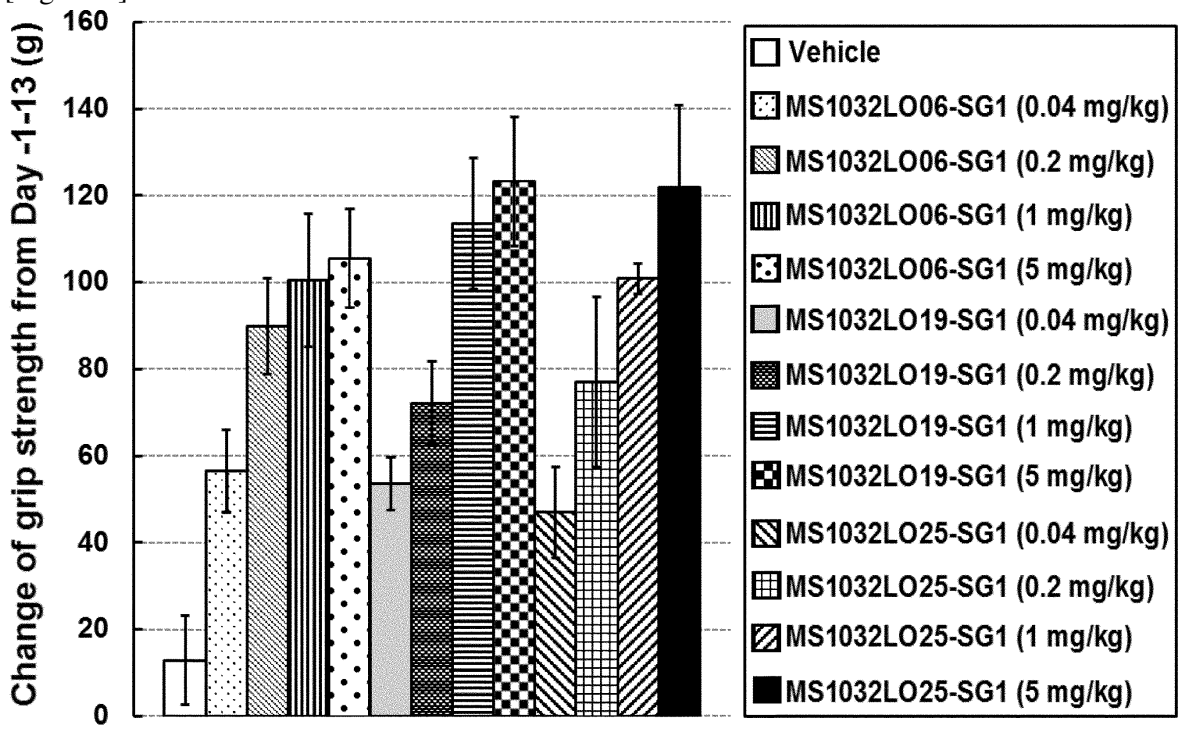
[Fig. 20C]



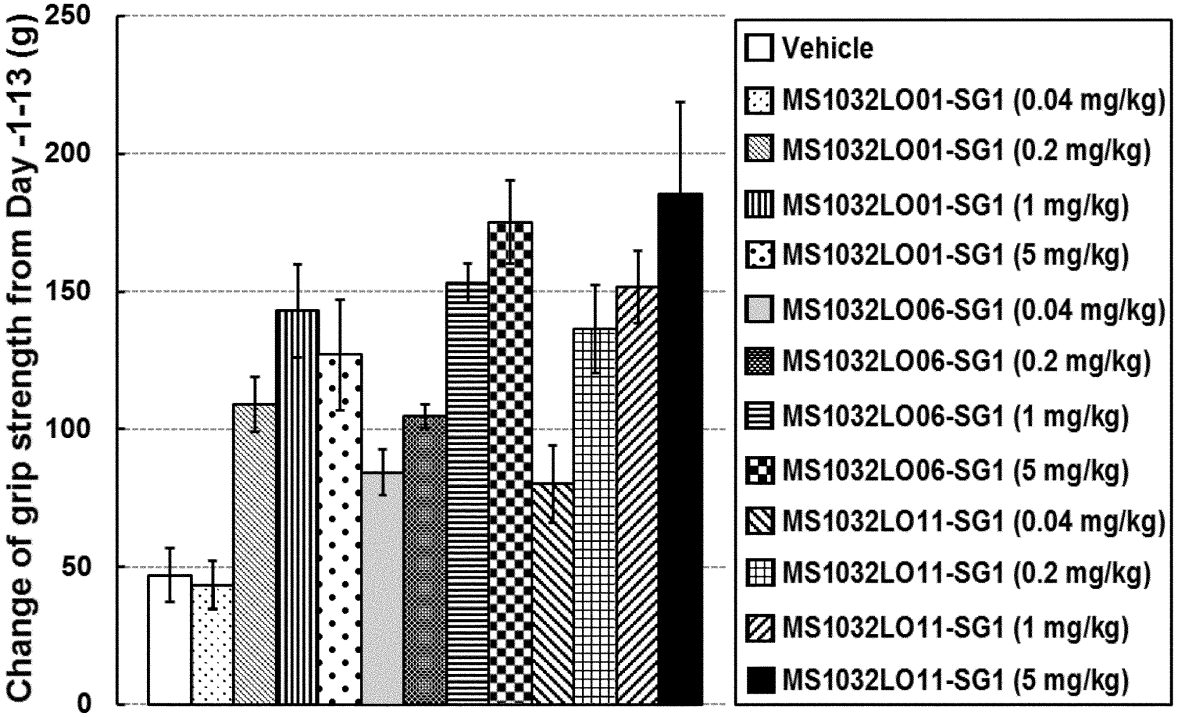
[Fig. 20D]



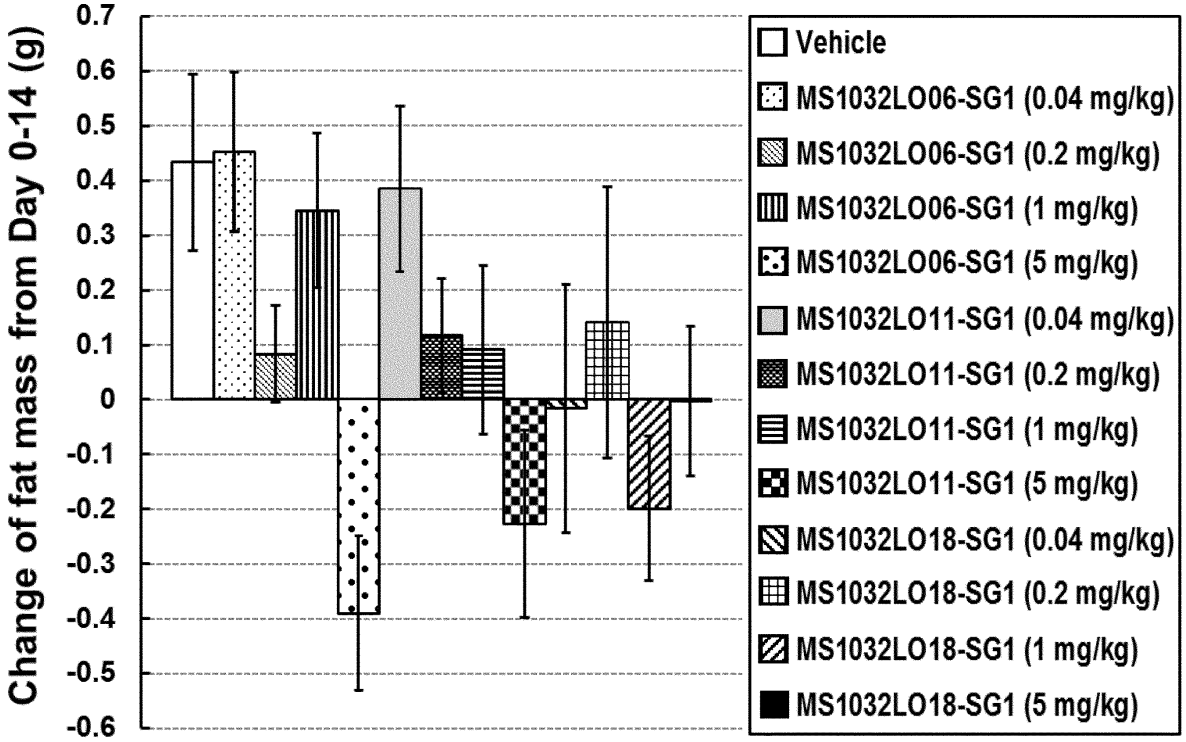
[Fig. 20E]



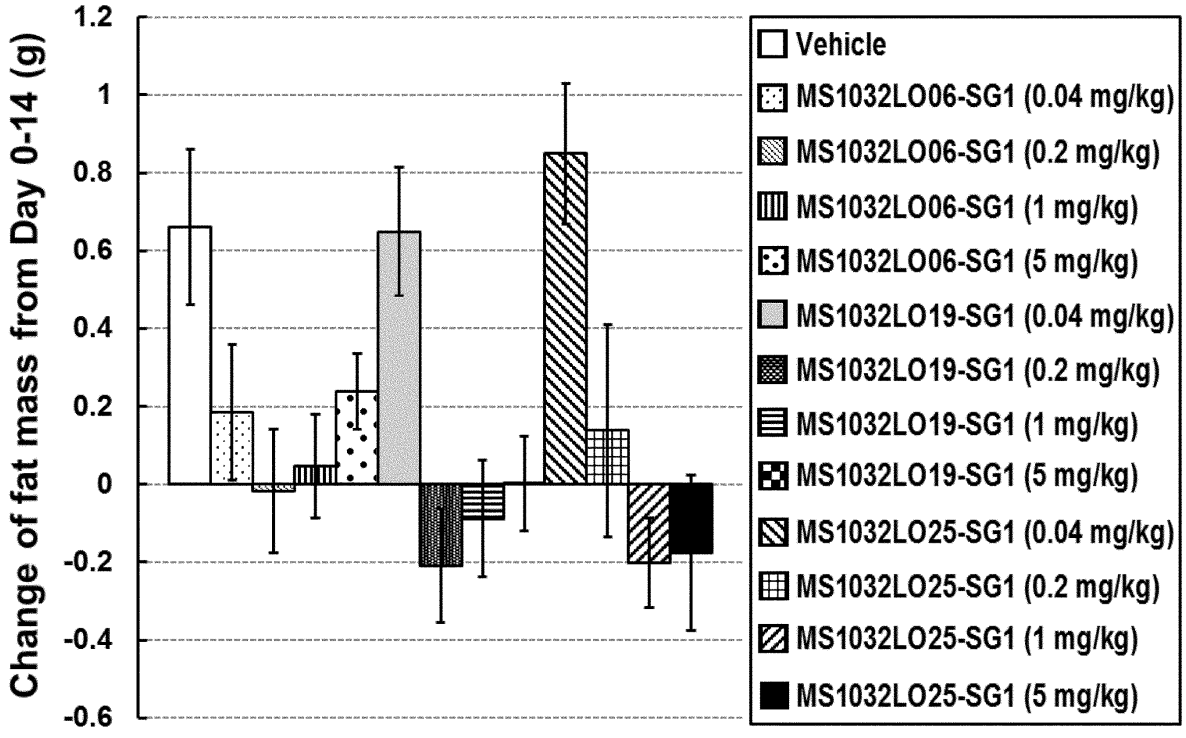
[Fig. 20F]



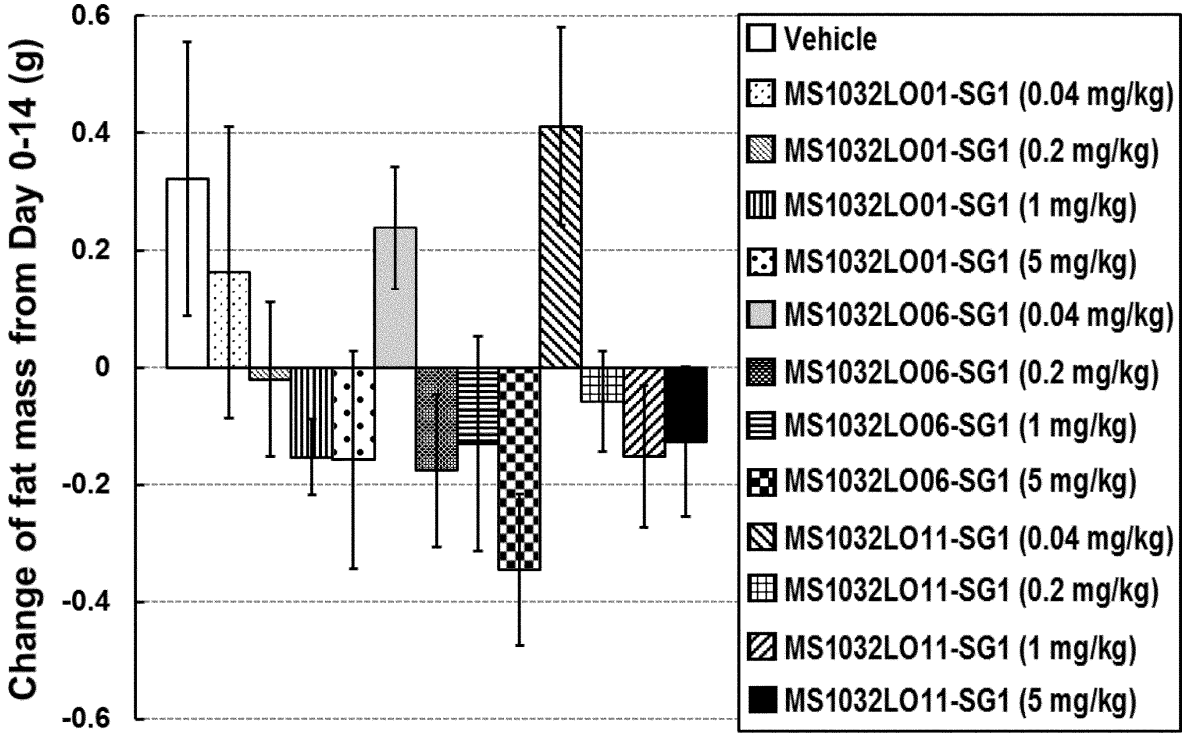
[Fig. 20G]



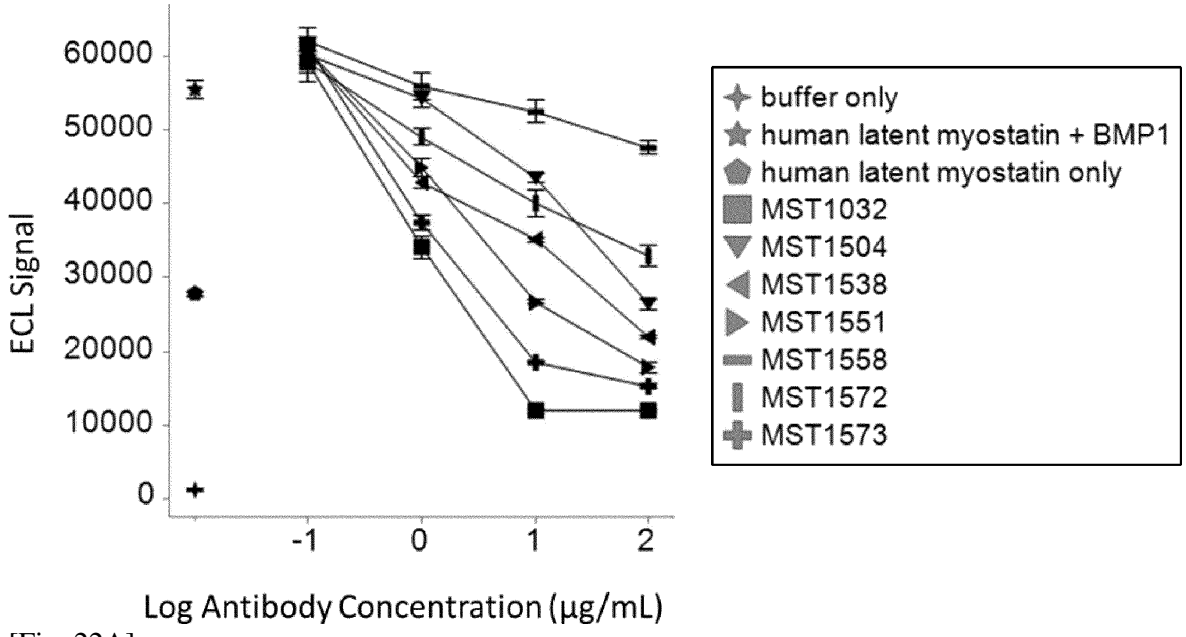
[Fig. 20H]



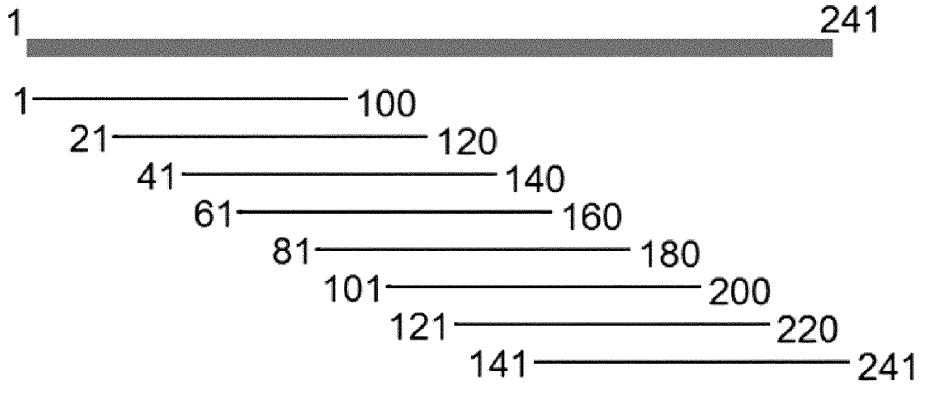
[Fig. 20I]



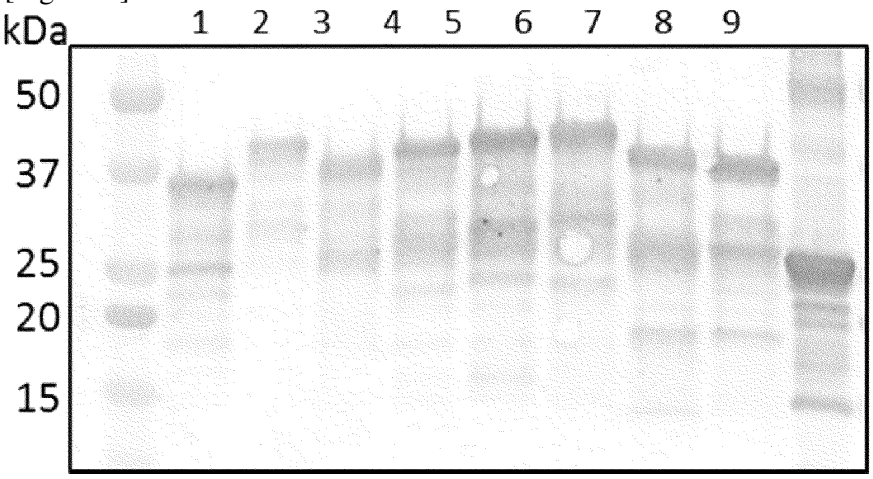
[Fig. 21]



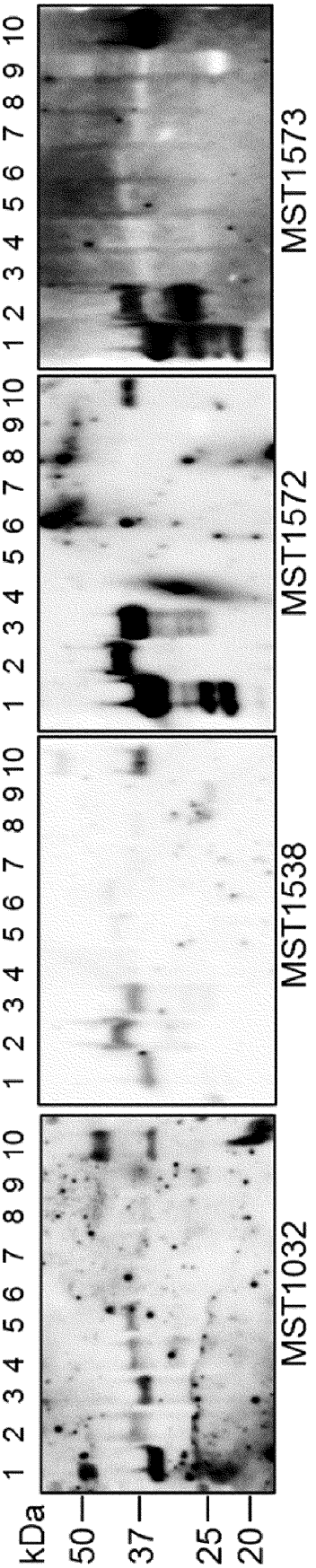
[Fig. 22A]



[Fig. 22B]



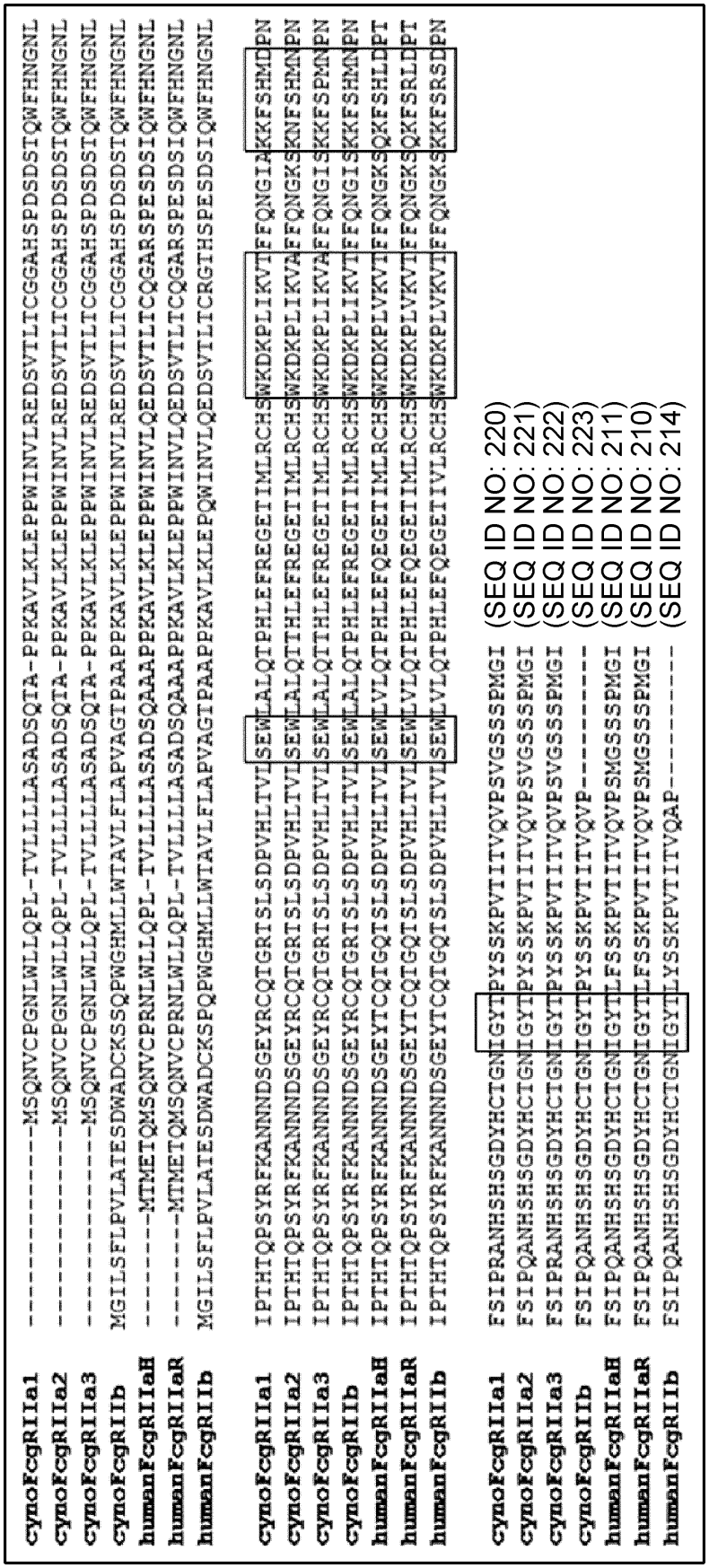
[Fig. 22C]


kDa
50
37
25
20
1 2 3 4 5 6 7 8 9 10
MST1032
1 2 3 4 5 6 7 8 9 10
MST1538
1 2 3 4 5 6 7 8 9 10
MST1572
1 2 3 4 5 6 7 8 9 10
MST1573

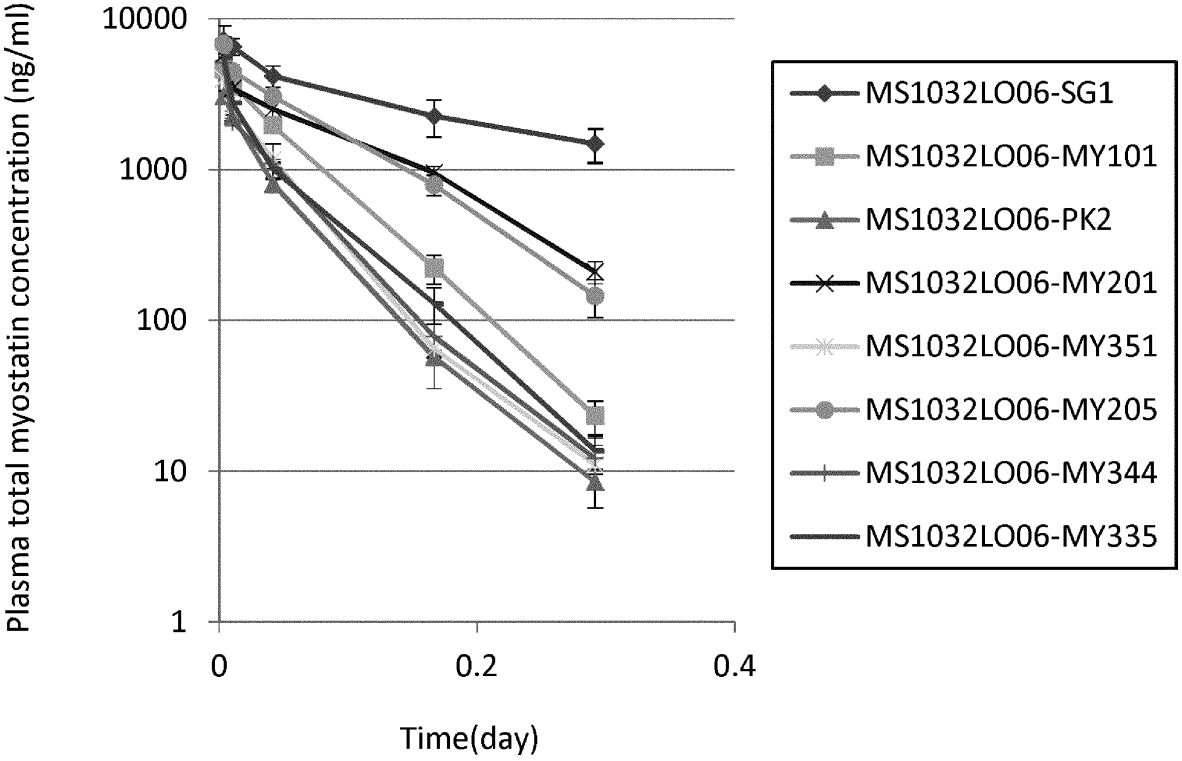
[Fig. 22D]

Ab	Main epitope	fragments							
		1	2	3	4	5	6	7	8
MST1032	81-100	■	■	■	■	■			
MST1538	41-60	■	■	■					
MST1572	41-60	■	■	■					
MST1573	21-40	■	■						

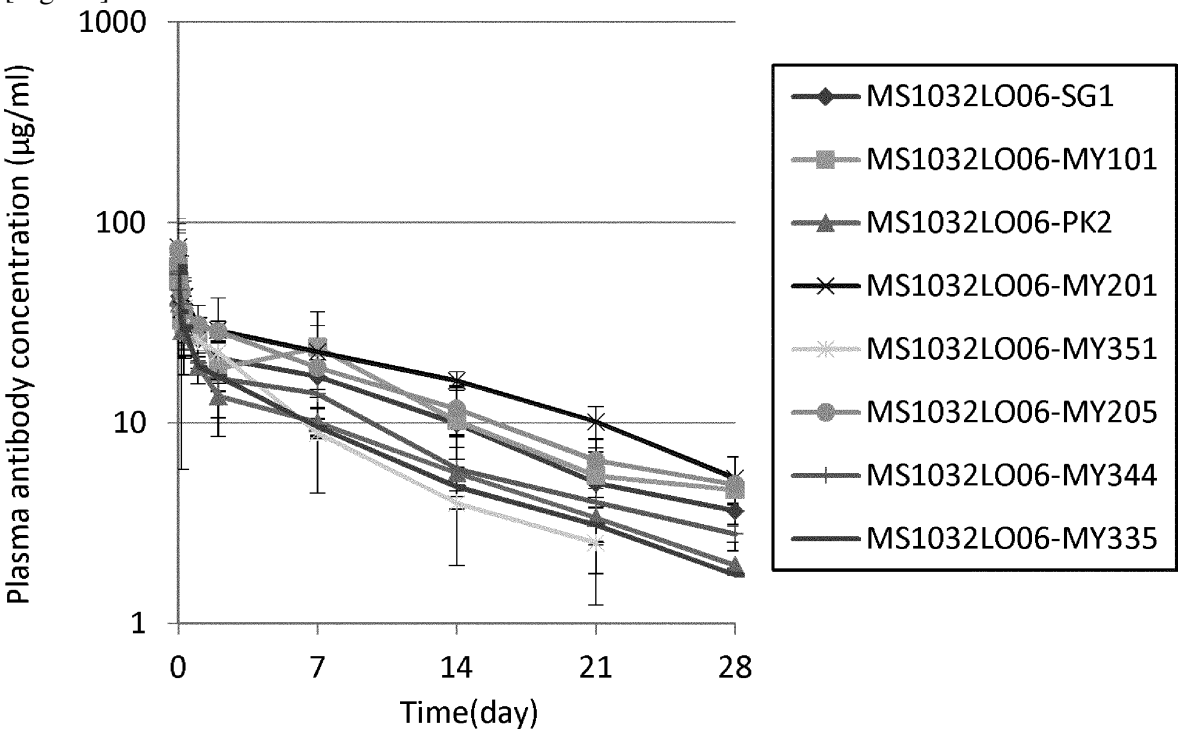
[Fig. 23]


cynoFcgRIIa1 ----------MSQNVCPGNLWLLQPL-TVLLLLASADSQTA-PPKAVLKLEPPWINVLREDSVTLICGGAHSPDSDSTQWFHNGNL
cynoFcgRIIa2 ----------MSQNVCPGNLWLLQPL-TVLLLLASADSQTA-PPKAVLKLEPPWINVLREDSVTLICGGAHSPDSDSTQWFHNGNL
cynoFcgRIIa3 ----------MSQNVCPGNLWLLQPL-TVLLLLASADSQTA-PPKAVLKLEPPWINVLREDSVTLICGGAHSPDSDSTQWFHNGNL
cynoFcgRIIb MGILSFLPVLATESDWADCKSSQPWGHMLLWTAVLFLAPVAGTPAAPPKAVLKLEPPWINVLREDSVTLICGGAHSPDSDSTQWFHNGNL
humanFcgRIIaH ---------MTMETQMSQNVCPRNLWLLQPL-TVLLLLASADSQAAAPPKAVLKLEPPWINVLQEDSVTLTCQGARSPESDSIQWFHNGNL
humanFcgRIIaR ---------MTMETQMSQNVCPRNLWLLQPL-TVLLLLASADSQAAAPPKAVLKLEPPWINVLQEDSVTLTCQGARSPESDSIQWFHNGNL
humanFcgRIIb MGILSFLPVLATESDWADCKSPQPWGHMLLWTAVLFLAPVAGTPAAPPKAVLKLEPQWINVLQEDSVTLICRGTHSPESDSIQWFHNGNL
cynoFcgRIIa1 IPTHTQPSYRFKANNNDSGEYRCQTGRTSLSDPVHLTVLSEWLALQTPHLEFREGETIMLRCHSWKDKPLIKVTFFQNGIAKKFSHMDPN
cynoFcgRIIa2 IPTHTQPSYRFKANNNDSGEYRCQTGRTSLSDPVHLTVLSEWLALQTTHLEFREGETIMLRCHSWKDKPLIKVAFFQNGKSKNFSHMNPN
cynoFcgRIIa3 IPTHTQPSYRFKANNNDSGEYRCQTGRTSLSDPVHLTVLSEWLALQTTHLEFREGETIMLRCHSWKDKPLIKVAFFQNGISKKFSPMNPN
cynoFcgRIIb IPTHTQPSYRFKANNNDSGEYRCQTGRTSLSDPVHLTVLSEWLALQTPHLEFREGETIMLRCHSWKDKPLIKVTFFQNGISKKFSHMNPN
humanFcgRIIaH IPTHTQPSYRFKANNNDSGEYTCQTGQTSLSDPVHLTVLSEWLVLQTPHLEFQEGETIMLRCHSWKDKPLVKVTFFQNGKSQKFSHLDPT
humanFcgRIIaR IPTHTQPSYRFKANNNDSGEYTCQTGQTSLSDPVHLTVLSEWLVLQTPHLEFQEGETIMLRCHSWKDKPLVKVTFFQNGKSQKFSRLDPT
humanFcgRIIb IPTHTQPSYRFKANNNDSGEYTCQTGQTSLSDPVHLTVLSEWLVLQTPHLEFQEGETIVLRCHSWKDKPLVKVTFFQNGKSKKFSRSDPN
cynoFcgRIIa1 FSIPRANHSHSGDYHCTGNIGYTPYSSKPVTITVQVPSVGSSSPMGI (SEQ ID NO: 220)
cynoFcgRIIa2 FSIPQANHSHSGDYHCTGNIGYTPYSSKPVTITVQVPSVGSSSPMGI (SEQ ID NO: 221)
cynoFcgRIIa3 FSIPRANHSHSGDYHCTGNIGYTPYSSKPVTITVQVPSVGSSSPMGI (SEQ ID NO: 222)
cynoFcgRIIb FSIPQANHSHSGDYHCTGNIGYTPYSSKPVTITVQVP---------- (SEQ ID NO: 223)
humanFcgRIIaH FSIPQANHSHSGDYHCTGNIGYTLFSSKPVTITVQVPSMGSSSPMGI (SEQ ID NO: 211)
humanFcgRIIaR FSIPQANHSHSGDYHCTGNIGYTLFSSKPVTITVQVPSMGSSSPMGI (SEQ ID NO: 210)
humanFcgRIIb FSIPQANHSHSGDYHCTGNIGYTLYSSKPVTITVQAP---------- (SEQ ID NO: 214)

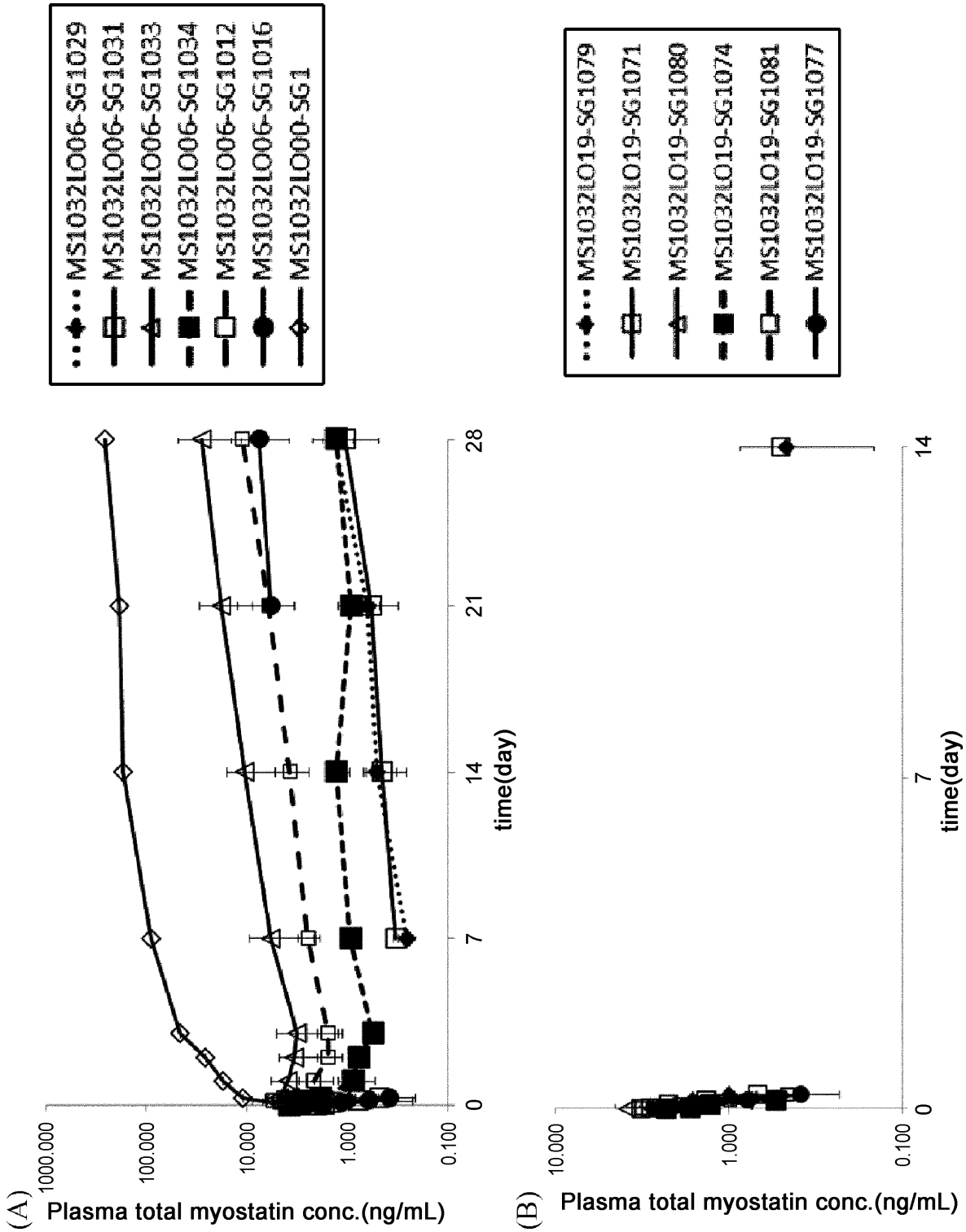
[Fig. 24]


Plasma total myostatin concentration (ng/ml)
10000
1000
100
10
1
0
0.2
0.4
Time(day)
MS1032LO06-SG1
MS1032LO06-MY101
MS1032LO06-PK2
MS1032LO06-MY201
MS1032LO06-MY351
MS1032LO06-MY205
MS1032LO06-MY344
MS1032LO06-MY335

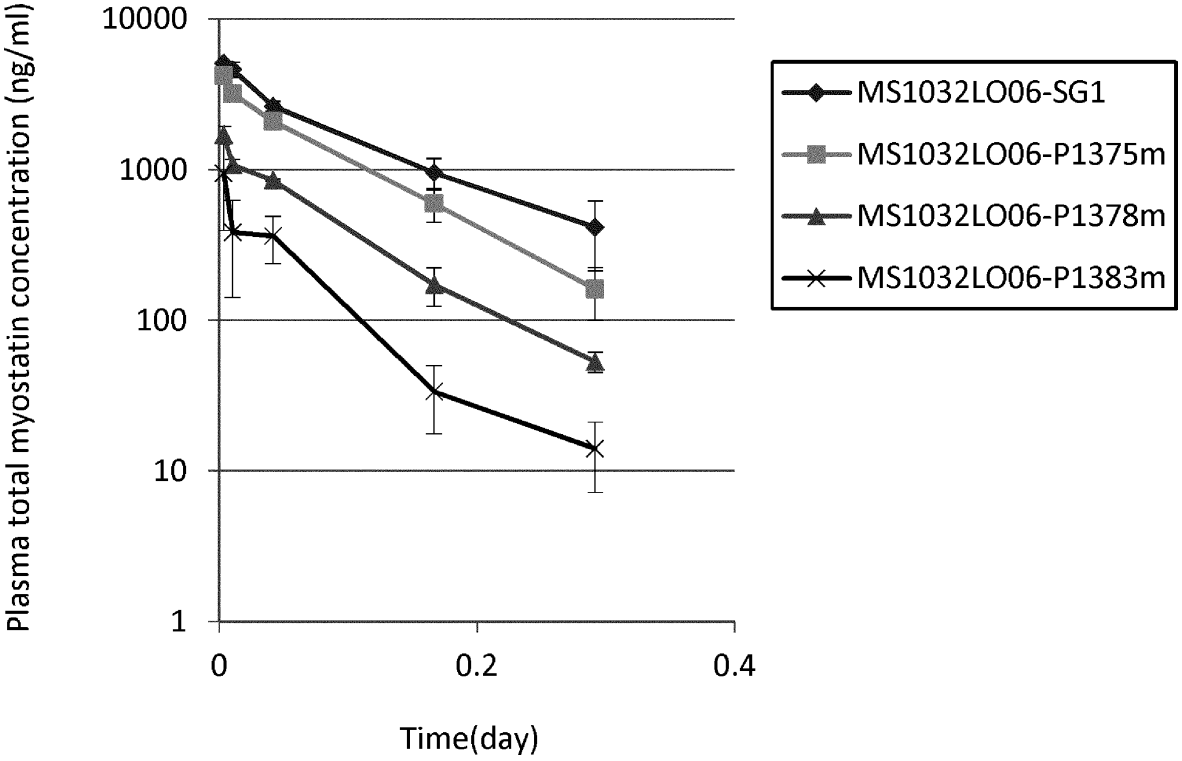
[Fig. 25]


Plasma antibody concentration (μg/ml)
1000
100
10
1
0
7
14
21
28
Time(day)
MS1032LO06-SG1
MS1032LO06-MY101
MS1032LO06-PK2
MS1032LO06-MY201
MS1032LO06-MY351
MS1032LO06-MY205
MS1032LO06-MY344
MS1032LO06-MY335

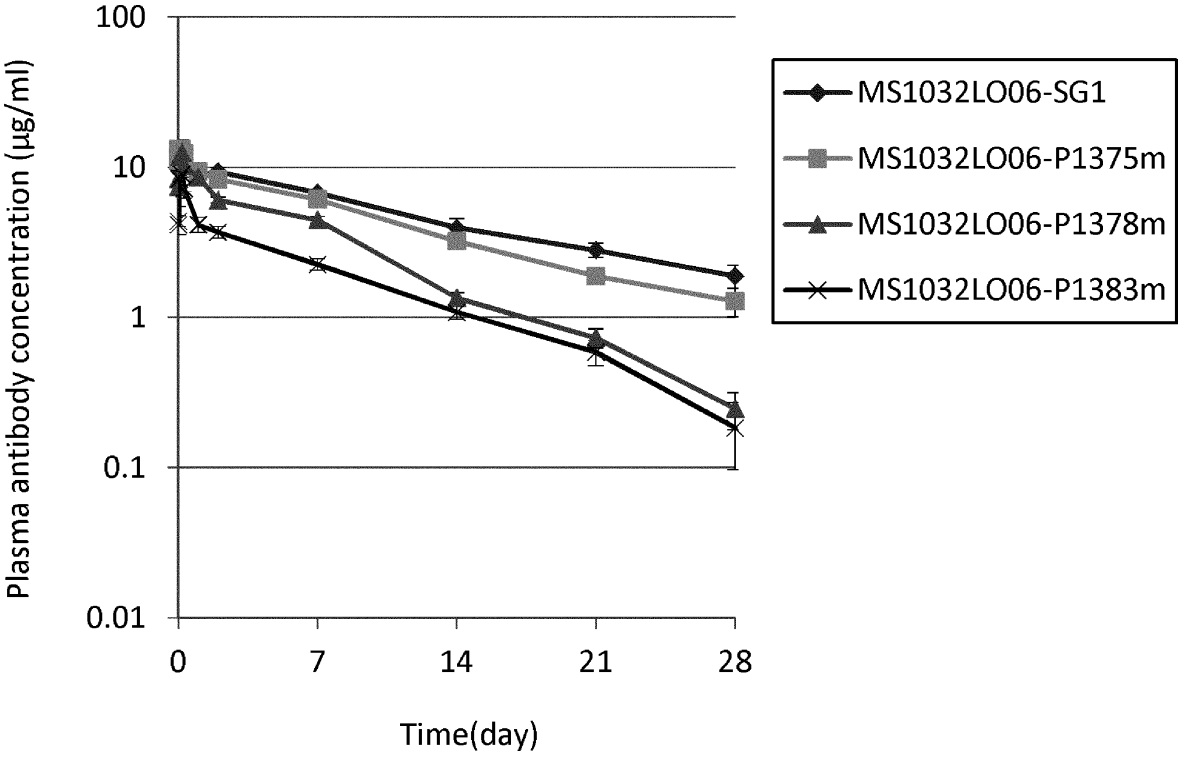
[Fig. 26]


MS1032LO06-SG1029
MS1032LO06-SG1031
MS1032LO06-SG1033
MS1032LO06-SG1034
MS1032LO06-SG1012
MS1032LO06-SG1016
MS1032LO00-SG1
MS1032LO19-SG1079
MS1032LO19-SG1071
MS1032LO19-SG1080
MS1032LO19-SG1074
MS1032LO19-SG1081
MS1032LO19-SG1077
(A)
Plasma total myostatin conc.(ng/mL)
1000.000
100.000
10.000
1.000
0.100
0
7
14
21
28
time(day)
(B)
Plasma total myostatin conc.(ng/mL)
10.000
1.000
0.100
0
7
14
time(day)

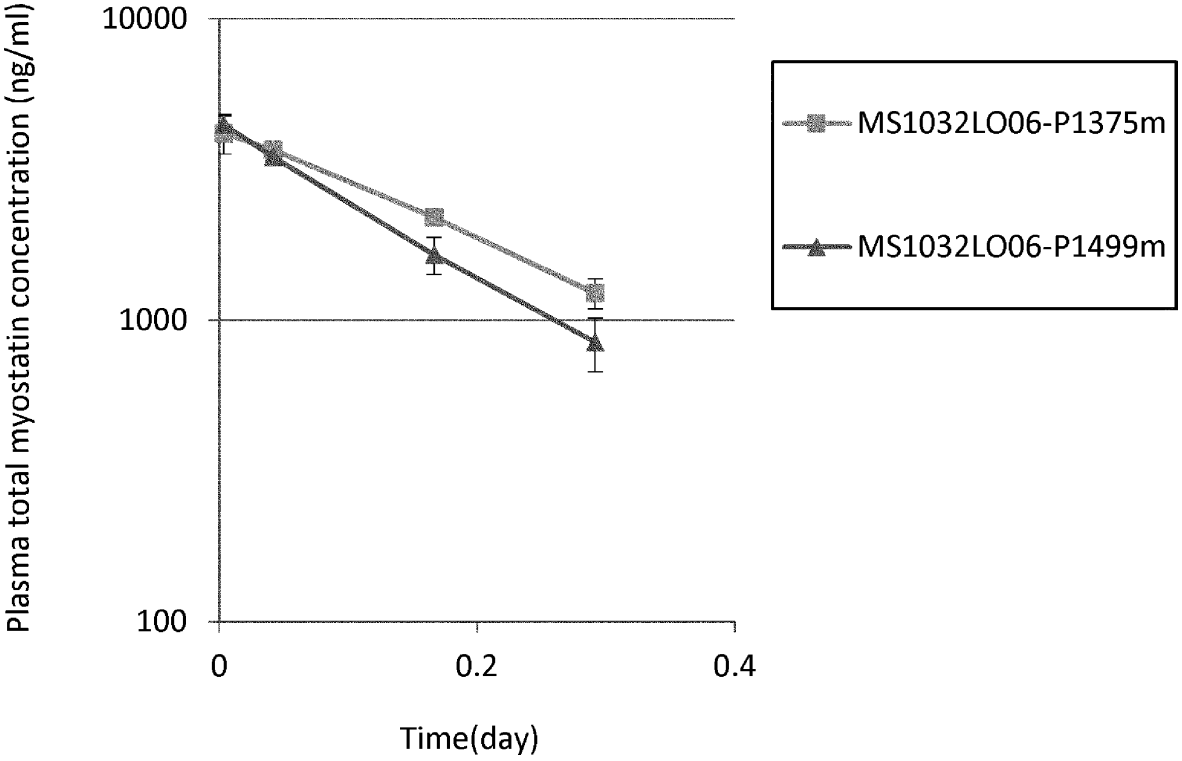
[Fig. 27A]



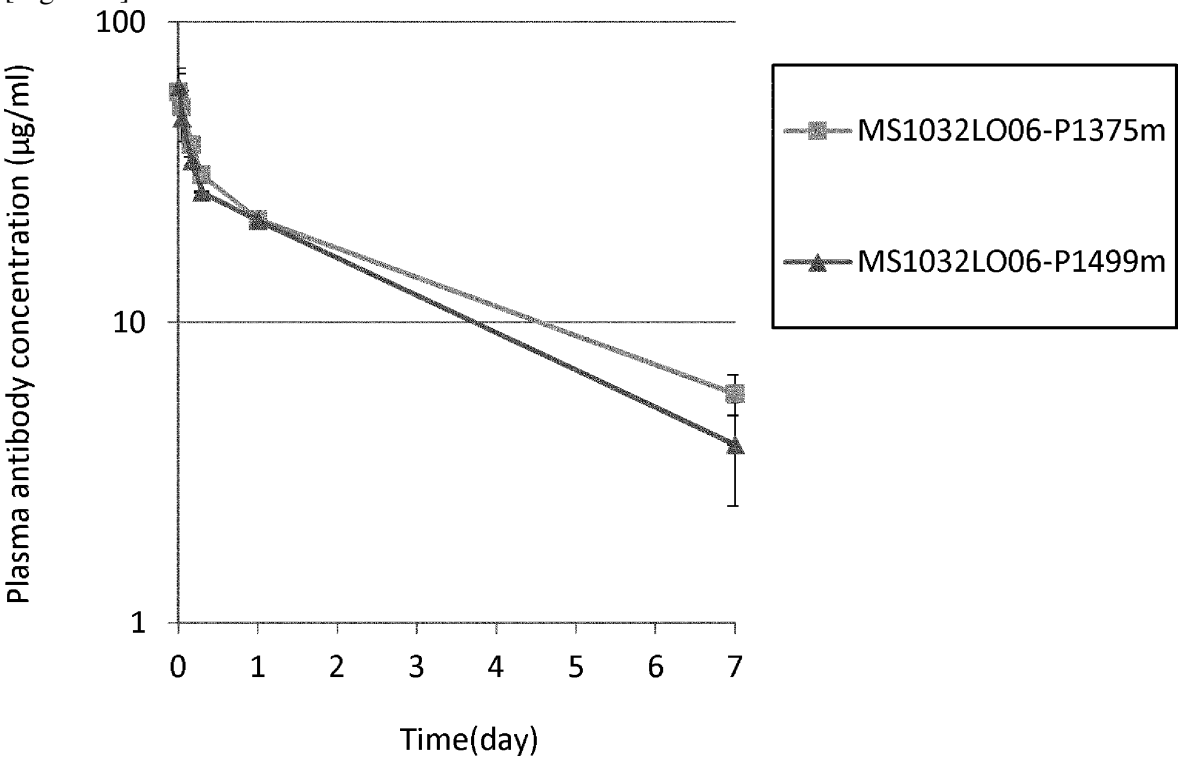
[Fig. 27B]



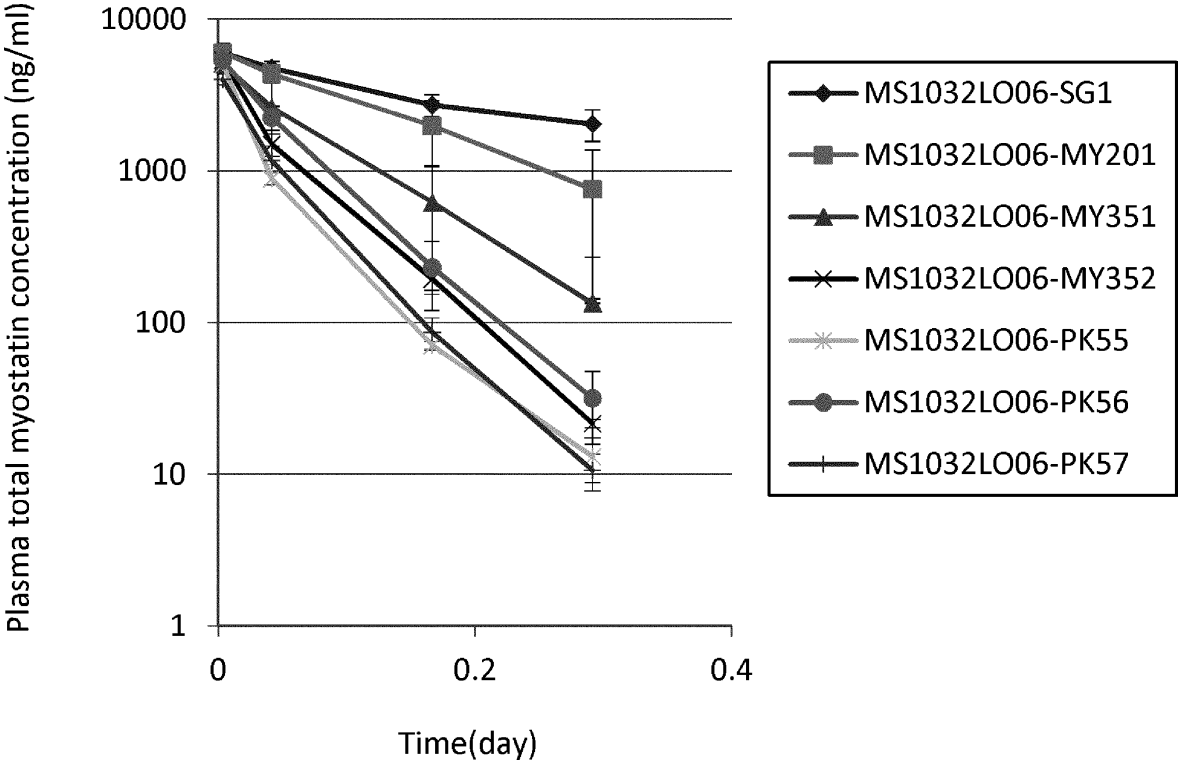
[Fig. 28A]



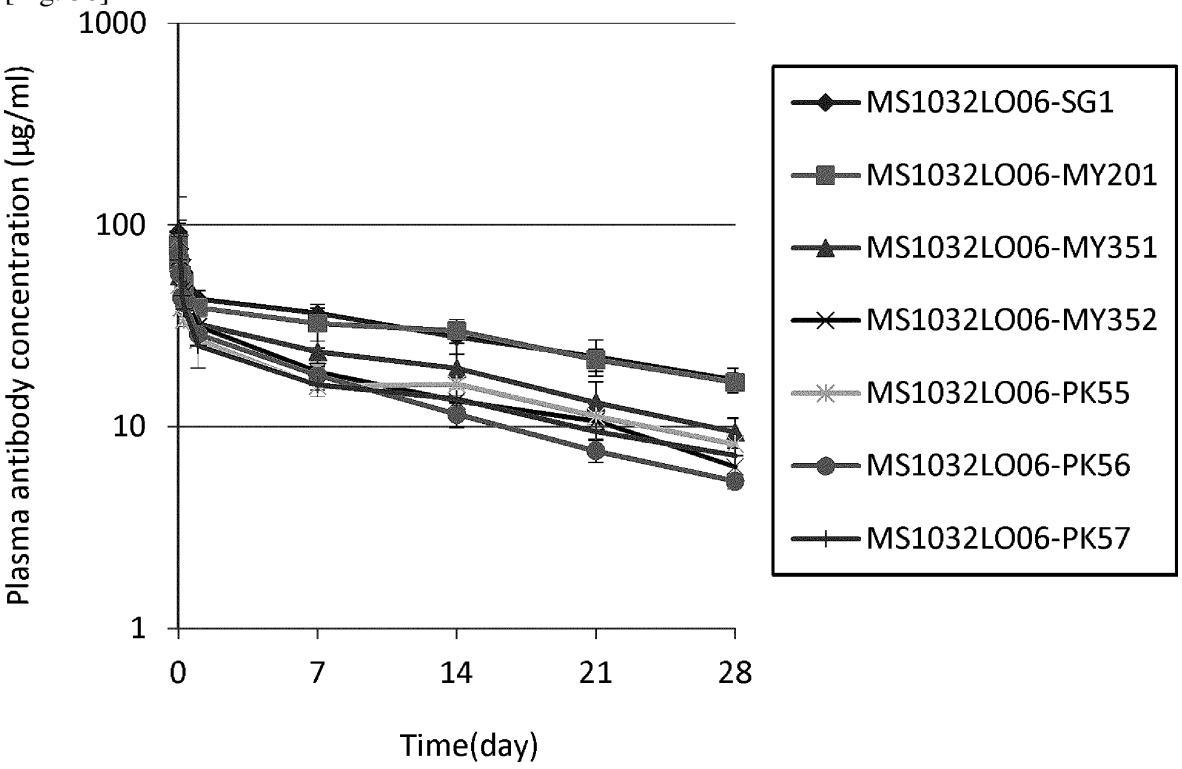
[Fig. 28B]



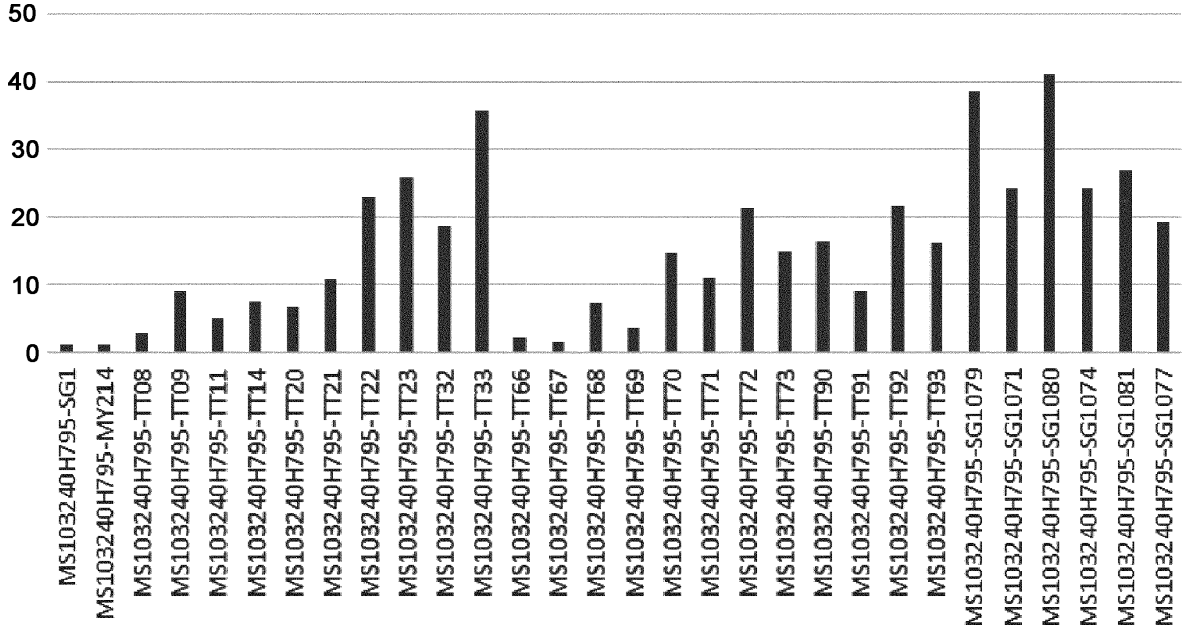
[Fig. 29]


Plasma total myostatin concentration (ng/ml)
10000
1000
100
10
1
0
0.2
0.4
Time(day)
MS1032LO06-SG1
MS1032LO06-MY201
MS1032LO06-MY351
MS1032LO06-MY352
MS1032LO06-PK55
MS1032LO06-PK56
MS1032LO06-PK57

[Fig. 30]


Plasma antibody concentration (μg/ml)
1000
100
10
1
0
7
14
21
28
Time(day)
MS1032LO06-SG1
MS1032LO06-MY201
MS1032LO06-MY351
MS1032LO06-MY352
MS1032LO06-PK55
MS1032LO06-PK56
MS1032LO06-PK57

[Fig. 31]


50
40
30
20
10
0
MS103240H795-SG1
MS103240H795-MY214
MS103240H795-TT08
MS103240H795-TT09
MS103240H795-TT11
MS103240H795-TT14
MS103240H795-TT20
MS103240H795-TT21
MS103240H795-TT22
MS103240H795-TT23
MS103240H795-TT32
MS103240H795-TT33
MS103240H795-TT66
MS103240H795-TT67
MS103240H795-TT68
MS103240H795-TT69
MS103240H795-TT70
MS103240H795-TT71
MS103240H795-TT72
MS103240H795-TT73
MS103240H795-TT90
MS103240H795-TT91
MS103240H795-TT92
MS103240H795-TT93
MS103240H795-SG1079
MS103240H795-SG1071
MS103240H795-SG1080
MS103240H795-SG1074
MS103240H795-SG1081
MS103240H795-SG1077