FIG. 1

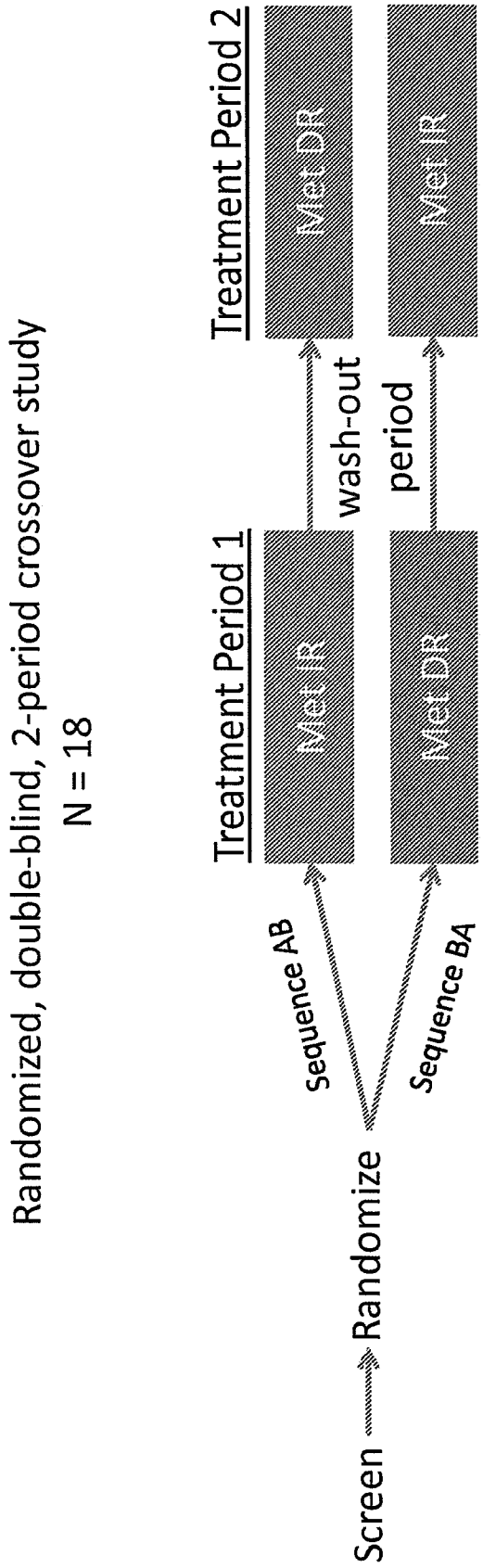

Randomized, double-blind, 2-period crossover study
N = 18
Screen
Randomize
Sequence AB
Sequence BA
Treatment Period 1
Treatment Period 2
Met IR
Met DR
wash-out
period
Met DR
Met IR

FIG. 2

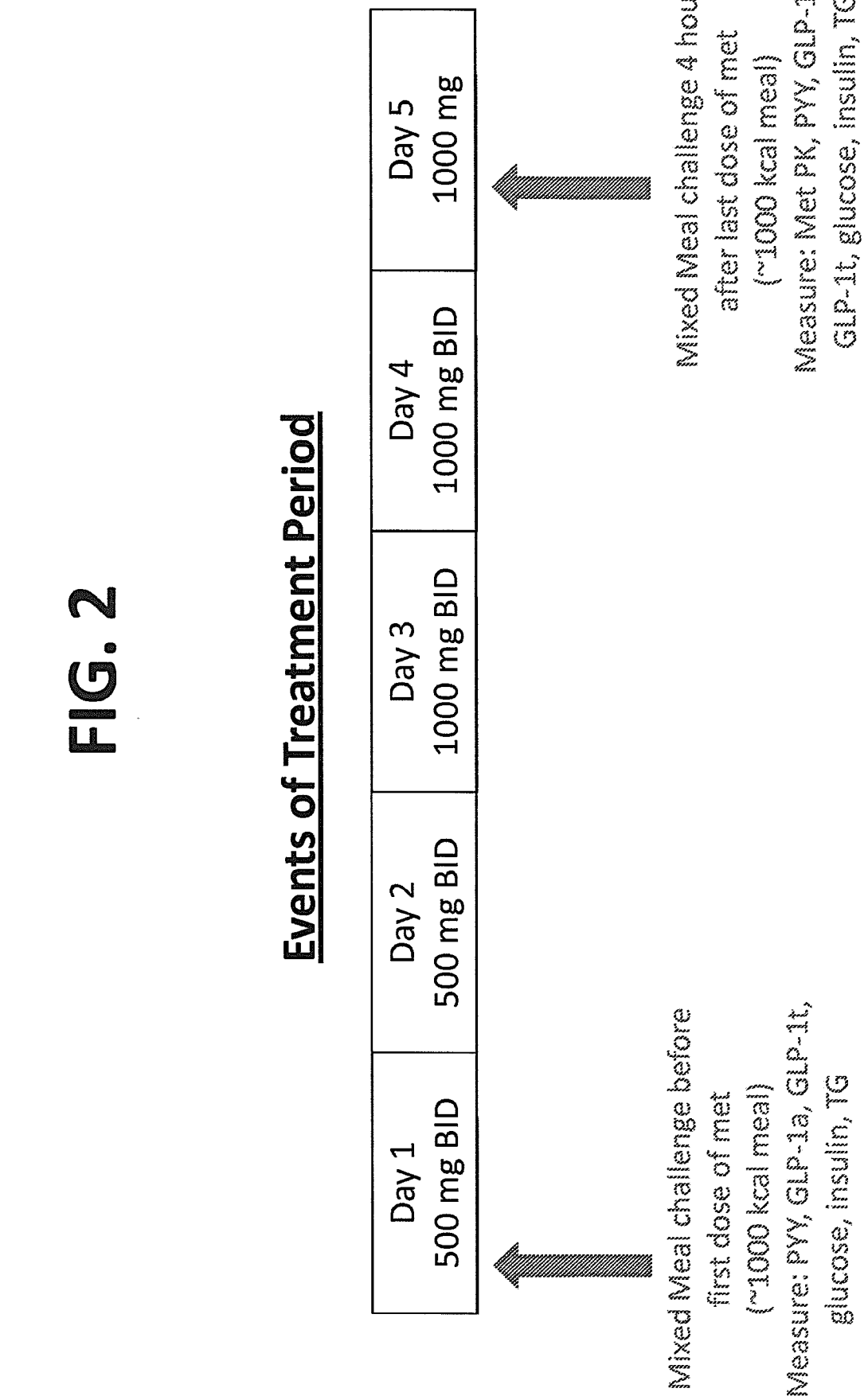

Events of Treatment Period
Day 1
500 mg BID
Day 2
500 mg BID
Day 3
1000 mg BID
Day 4
1000 mg BID
Day 5
1000 mg
Mixed Meal challenge before first dose of met (~1000 kcal meal)
Measure: PYY, GLP-1a, GLP-1t, glucose, insulin, TG
Mixed Meal challenge 4 hours after last dose of met (~1000 kcal meal)
Measure: Met PK, PYY, GLP-1a, GLP-1t, glucose, insulin, TG

FIG. 3

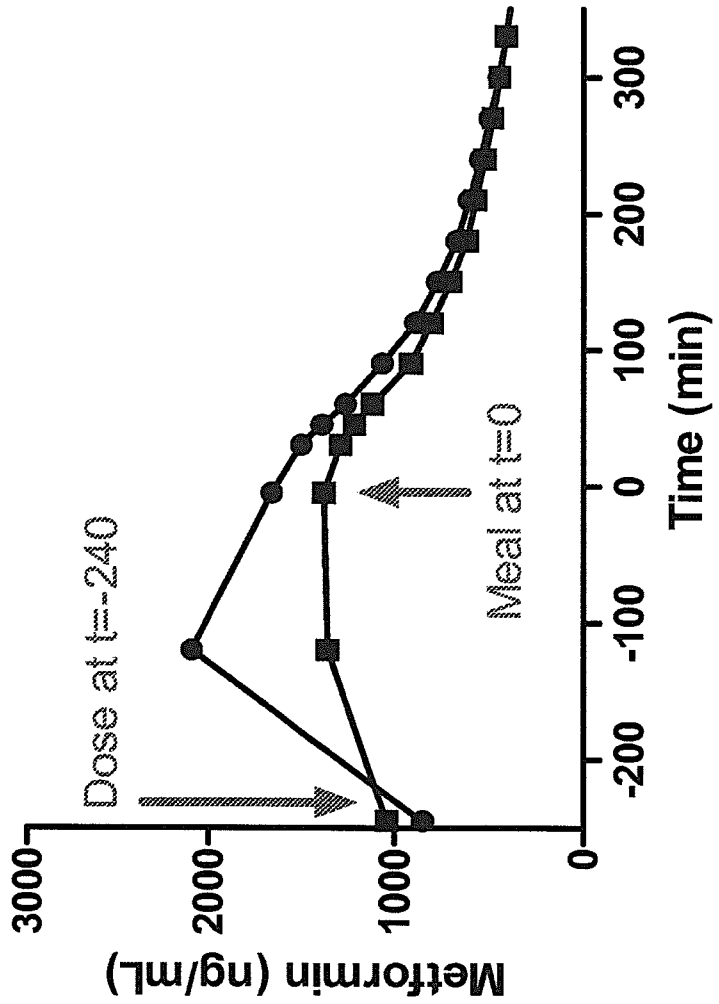

Metformin (ng/mL)
3000
2000
1000
0
-200
-100
0
100
200
300
Time (min)
Dose at t=-240
Meal at t=0

FIG. 4A

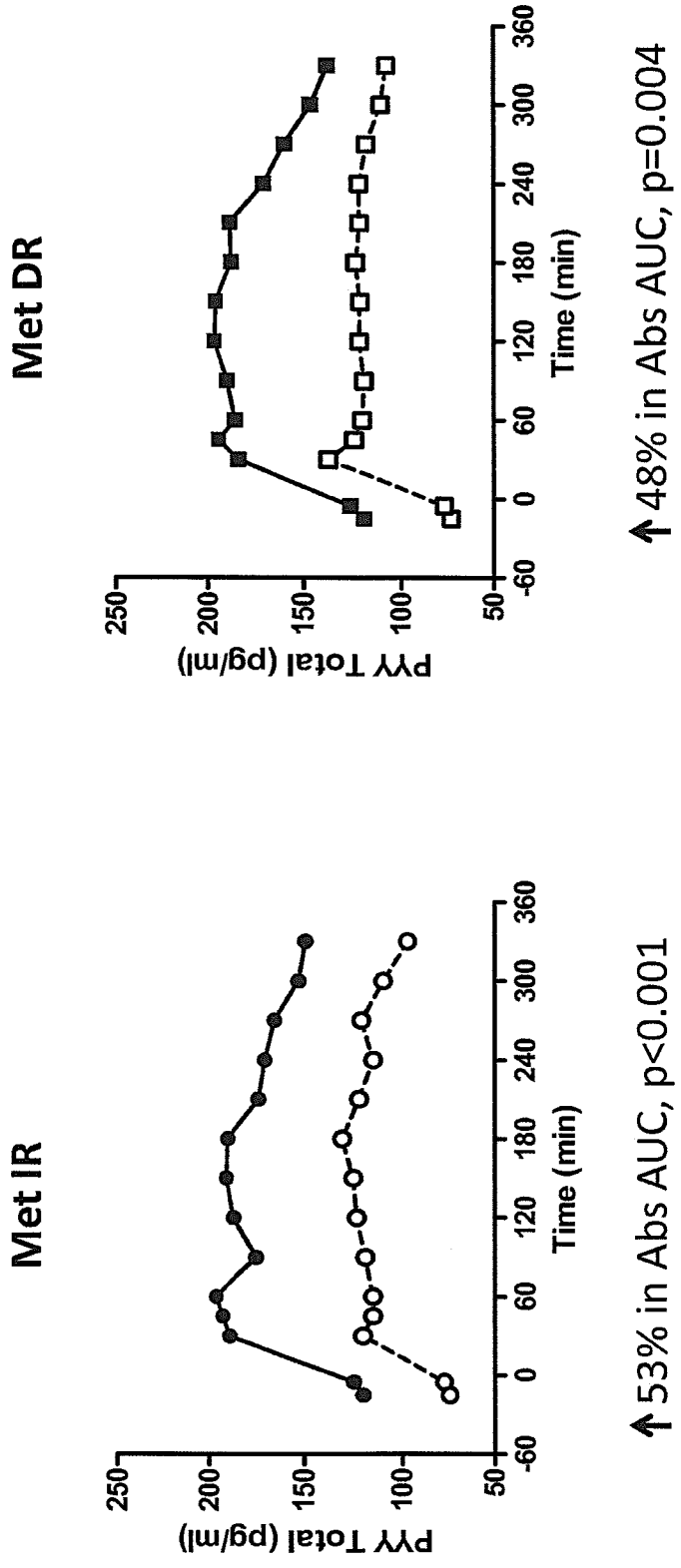

Met IR
PYY Total (pg/ml)
250
200
150
100
50
-60
0
60
120
180
240
300
360
Time (min)
↑53% in Abs AUC, p<0.001
Met DR
PYY Total (pg/ml)
250
200
150
100
50
-60
0
60
120
180
240
300
360
Time (min)
↑48% in Abs AUC, p=0.004

FIG. 4B

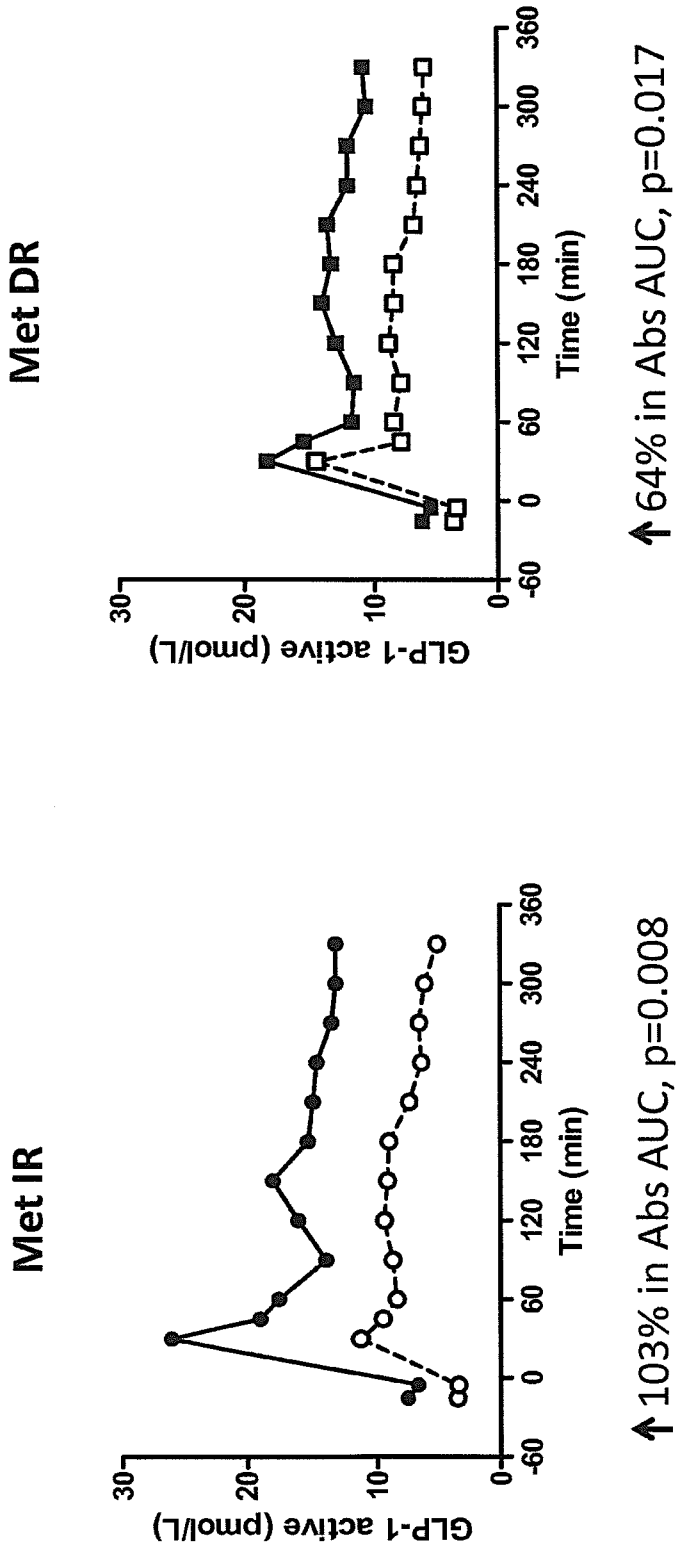

Met IR
GLP-1 active (pmol/L)
30
20
10
0
-60
0
60
120
180
240
300
360
Time (min)
↑103% in Abs AUC, p=0.008
Met DR
GLP-1 active (pmol/L)
30
20
10
0
-60
0
60
120
180
240
300
360
Time (min)
↑64% in Abs AUC, p=0.017

FIG. 4C

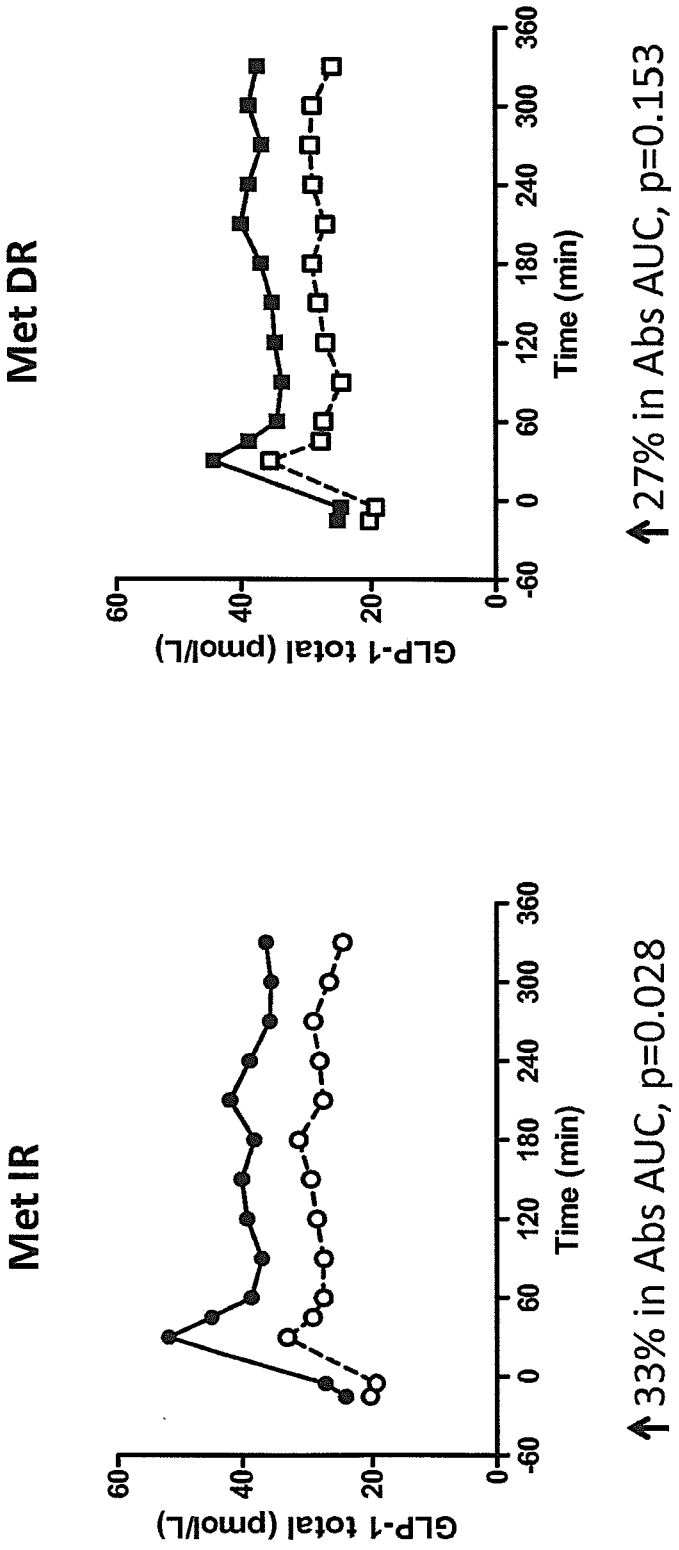

Met DR
GLP-1 total (pmol/L)
60
40
20
0
-60
0
60
120
180
240
300
360
Time (min)
27% in Abs AUC, p=0.153
Met IR
GLP-1 total (pmol/L)
60
40
20
0
-60
0
60
120
180
240
300
360
Time (min)
33% in Abs AUC, p=0.028

FIG. 5A

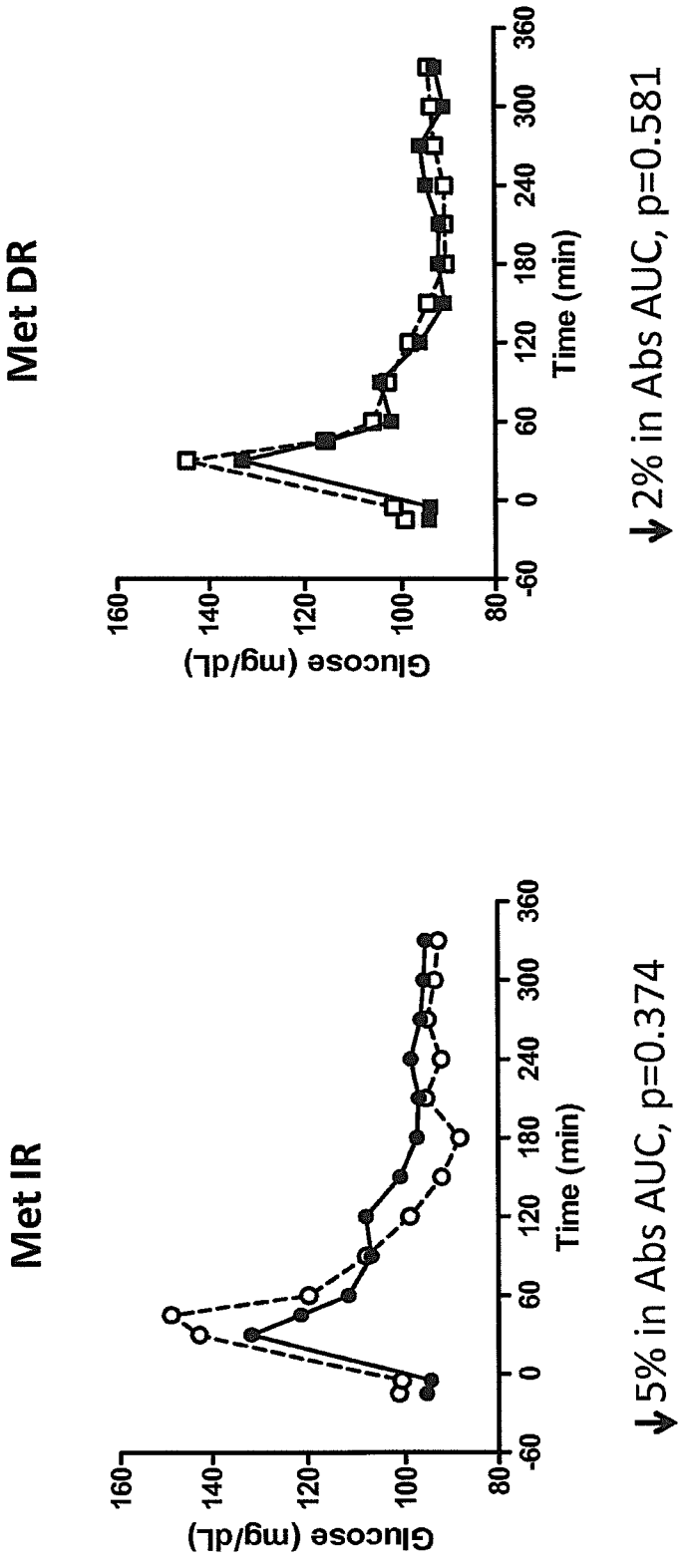

Met DR
Glucose (mg/dL)
160
140
120
100
80
-60
0
60
120
180
240
300
360
Time (min)
↓2% in Abs AUC, p=0.581
Met IR
Glucose (mg/dL)
160
140
120
100
80
-60
0
60
120
180
240
300
360
Time (min)
↓5% in Abs AUC, p=0.374

FIG. 5B

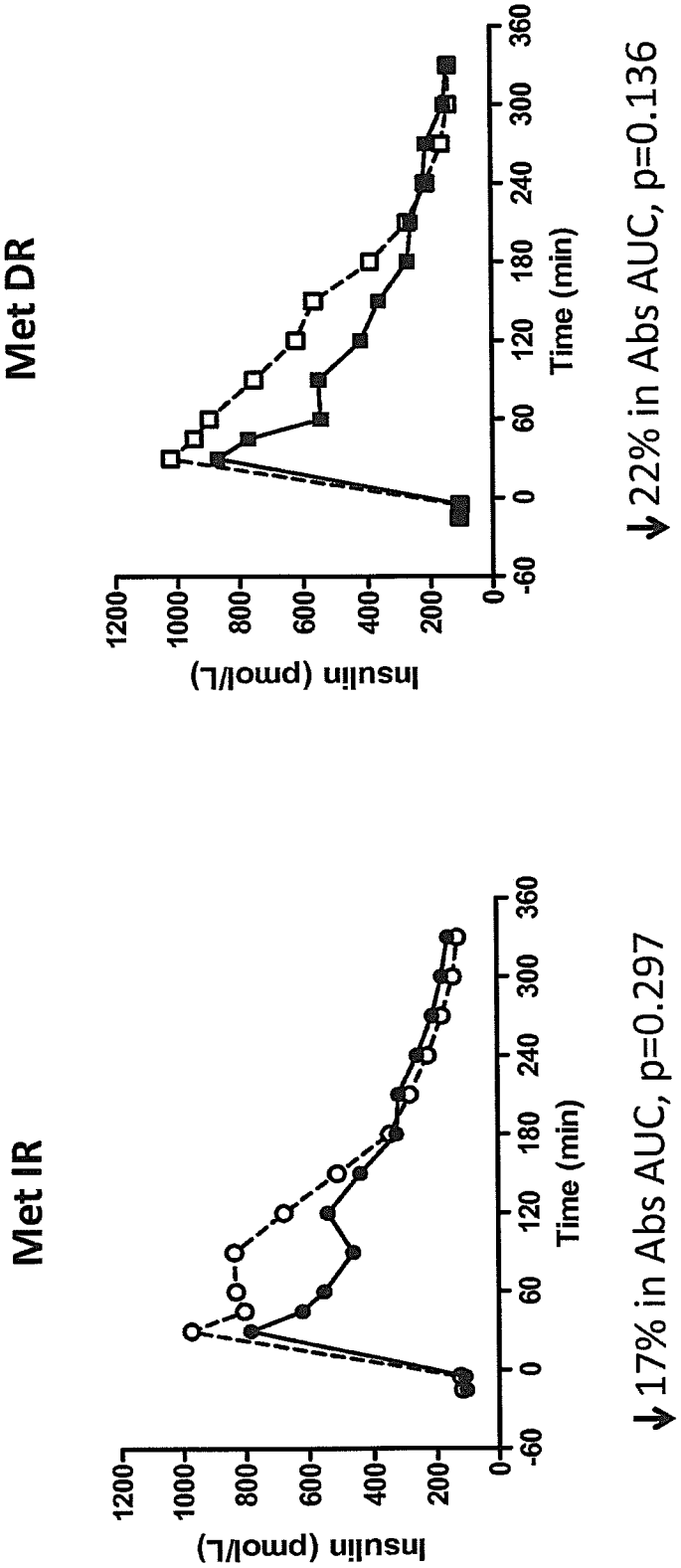

Met IR
Insulin (pmol/L)
1200
1000
800
600
400
200
0
-60
0
60
120
180
240
300
360
Time (min)
↓17% in Abs AUC, p=0.297
Met DR
Insulin (pmol/L)
1200
1000
800
600
400
200
0
-60
0
60
120
180
240
300
360
Time (min)
↓22% in Abs AUC, p=0.136

FIG. 6

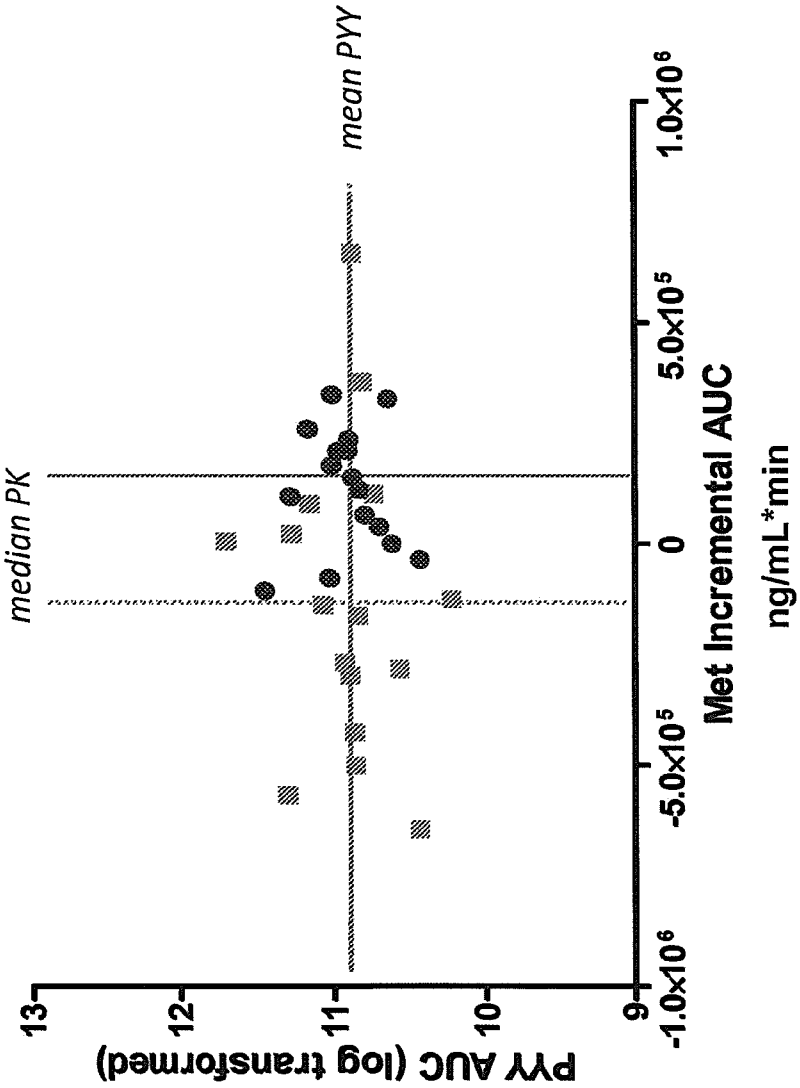

median PK
mean PYY
PYY AUC (log transformed)
13
12
11
10
9
-1.0x10^6
-5.0x10^5
0
5.0x10^5
1.0x10^6
Met Incremental AUC
ng/mL*min

FIG. 7B

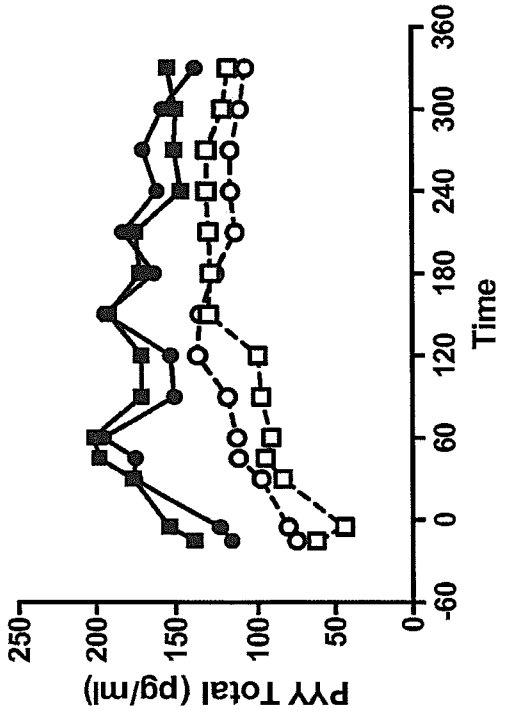

PYY Total (pg/ml)
250
200
150
100
50
0
-60
0
60
120
180
240
300
360
Time
Met IR
Met DR

FIG. 7A

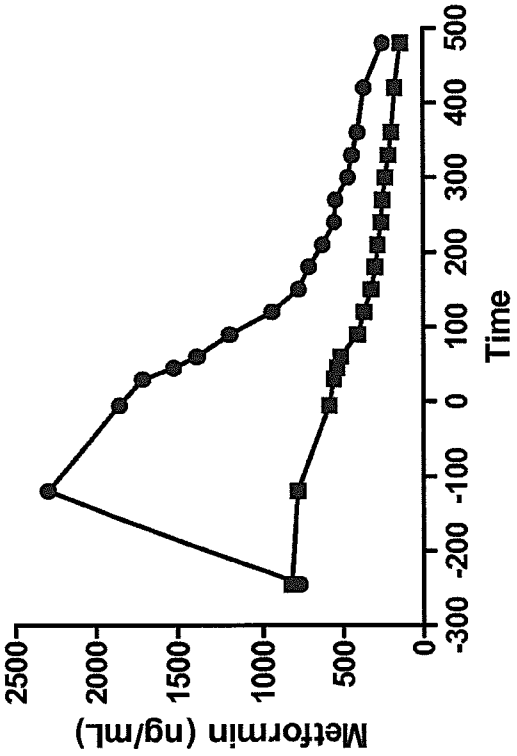

Metformin (ng/mL)
2500
2000
1500
1000
500
0
-300
-200
-100
0
100
200
300
400
500
Time
Baseline1
Baseline2

FIG. 8

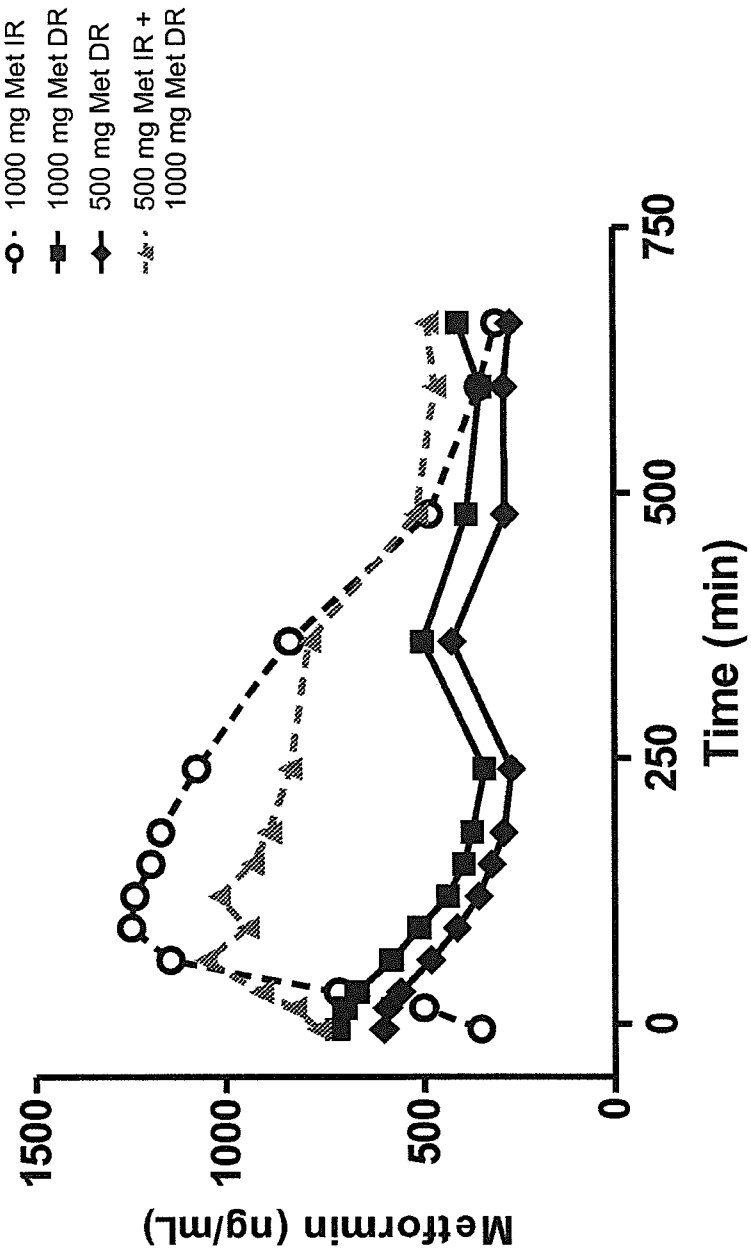

1000 mg Met IR
1000 mg Met DR
500 mg Met DR
500 mg Met IR +
1000 mg Met DR
Metformin (ng/mL)
1500
1000
500
0
0
250
500
750
Time (min)

FIG. 9

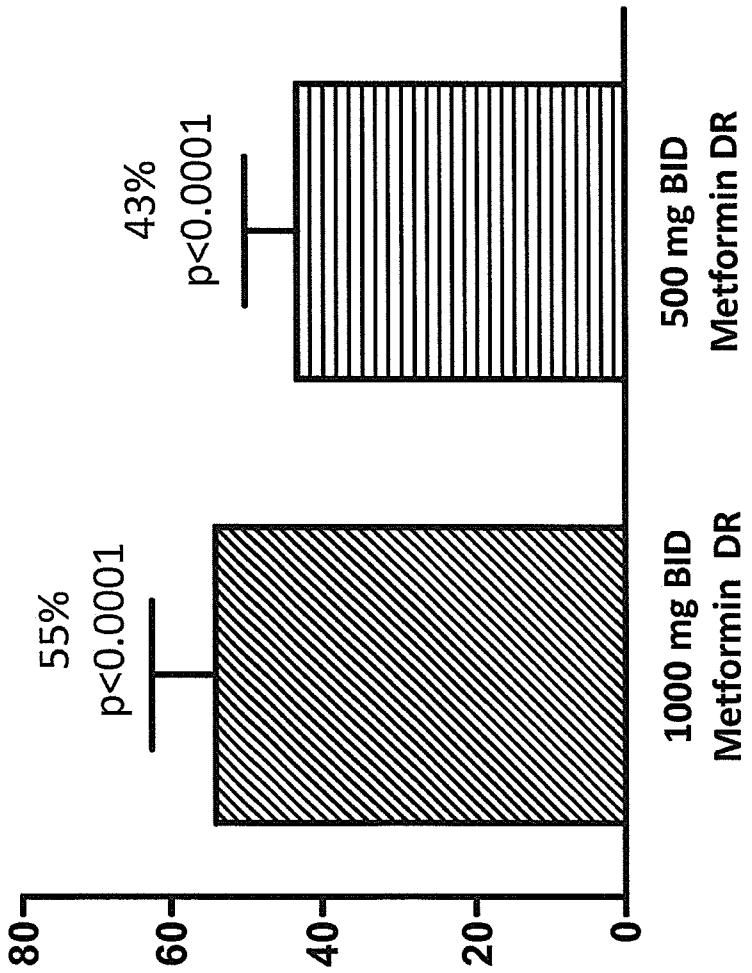

80
60
40
20
0
45%
55%
p<0.0001
57%
43%
p<0.0001
1000 mg BID
Metformin DR
500 mg BID
Metformin DR

FIG. 10

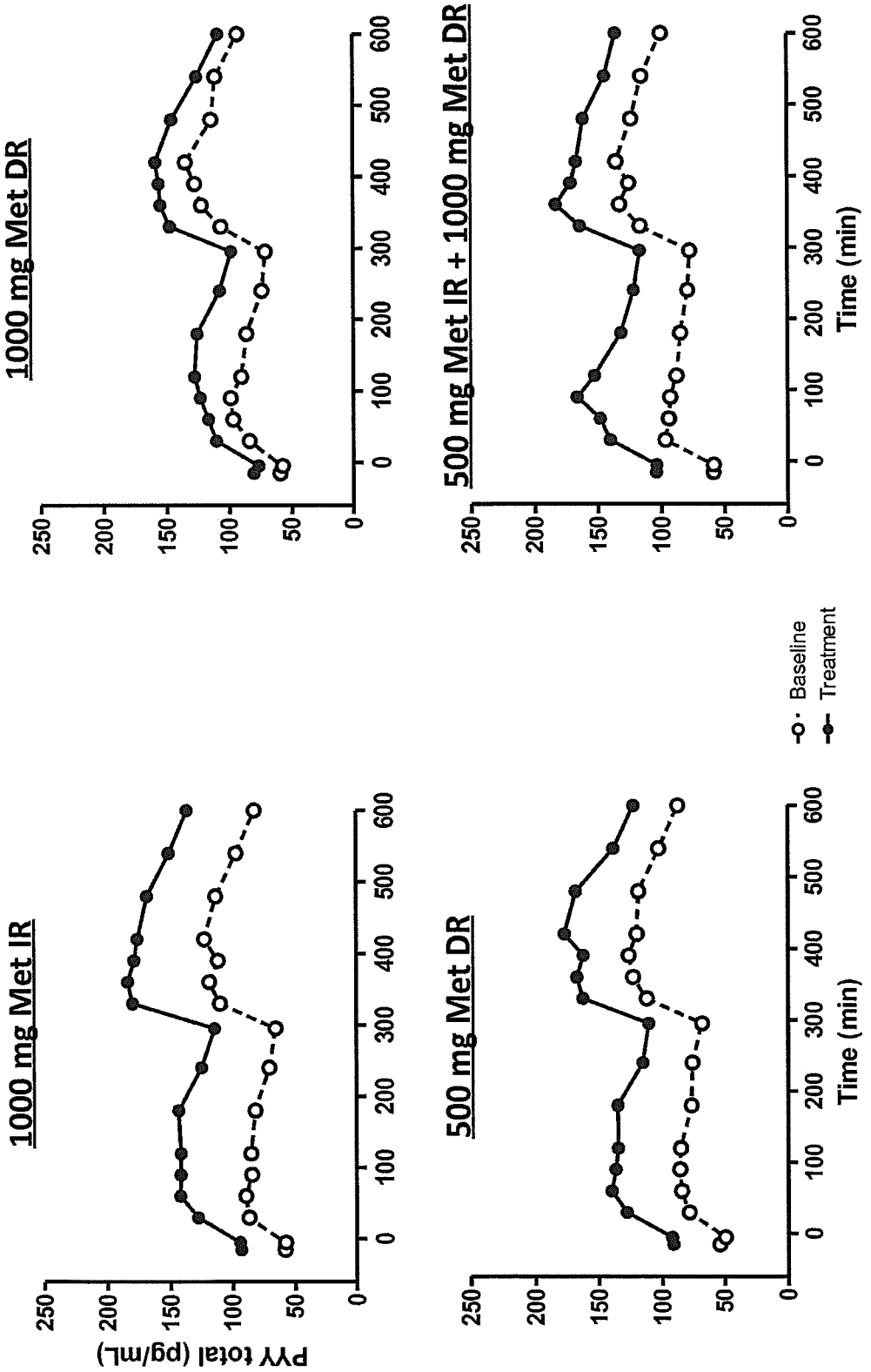

1000 mg Met IR
1000 mg Met DR
500 mg Met DR
500 mg Met IR + 1000 mg Met DR
PYY total (pg/mL)
Time (min)
Baseline
Treatment
0
50
100
150
200
250
0
100
200
300
400
500
600

FIG. 11

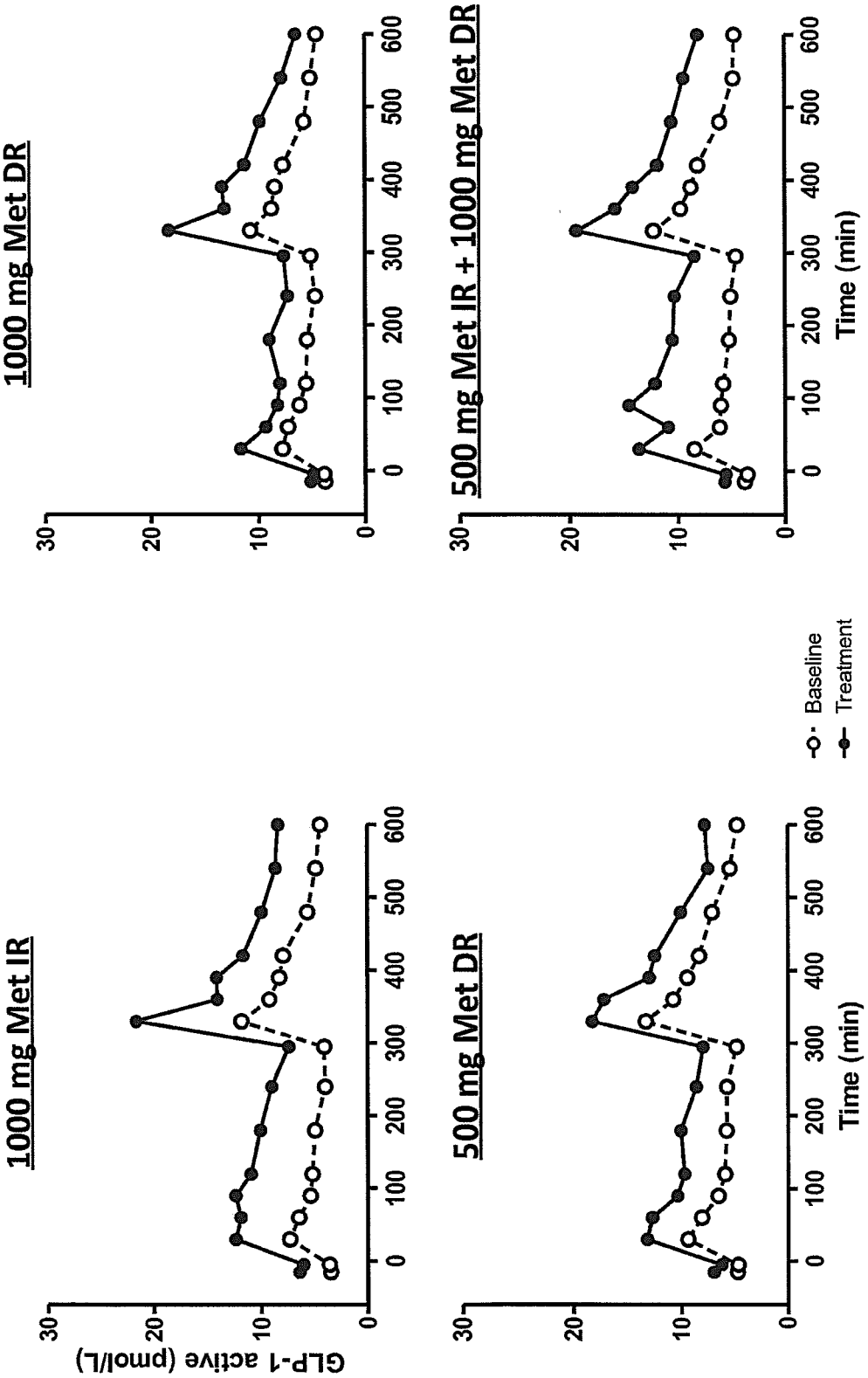

1000 mg Met IR
1000 mg Met DR
500 mg Met DR
500 mg Met IR + 1000 mg Met DR
GLP-1 active (pmol/L)
Time (min)
Baseline
Treatment
0
10
20
30
0
100
200
300
400
500
600

FIG. 12

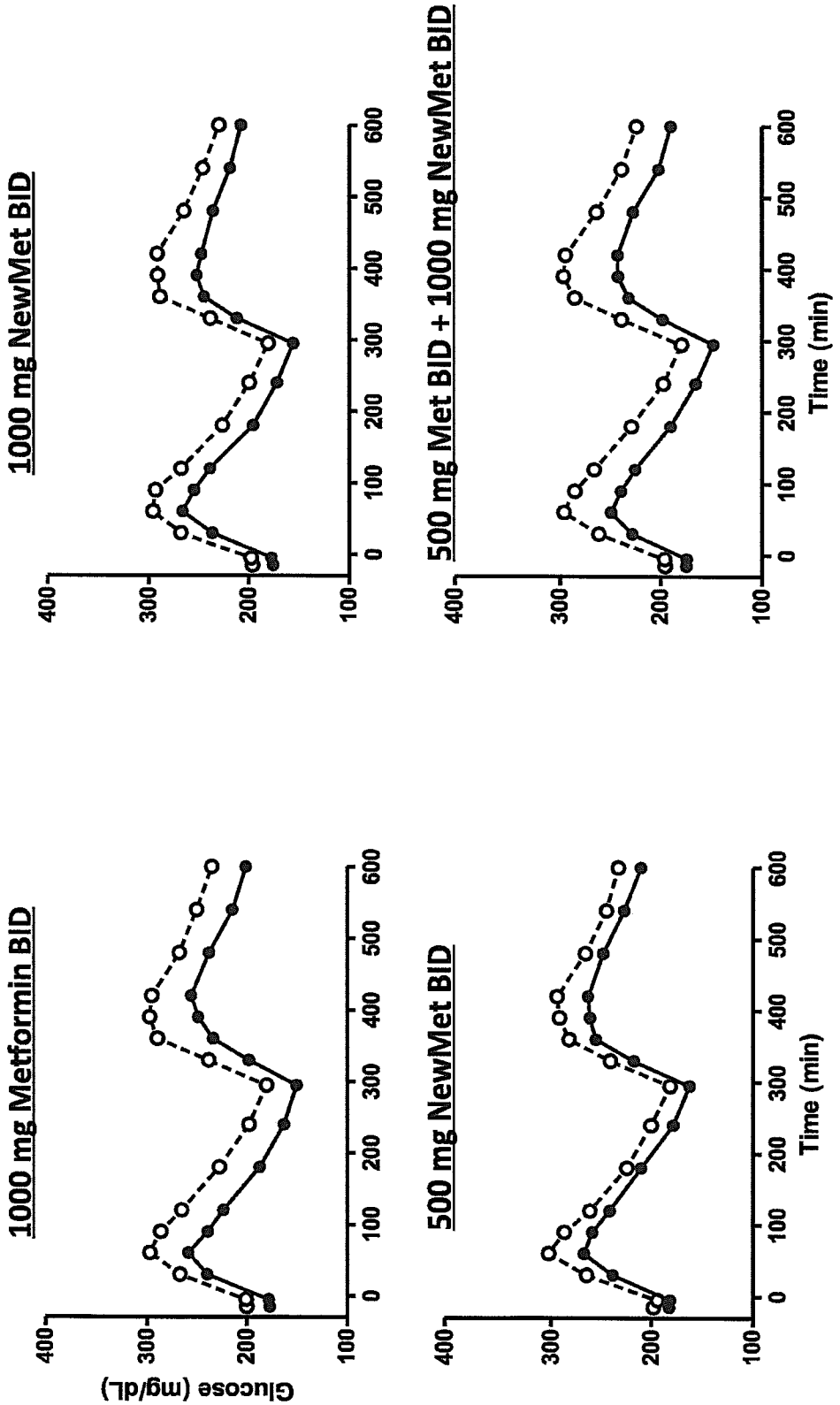

1000 mg Metformin BID
1000 mg NewMet BID
500 mg NewMet BID
500 mg Met BID + 1000 mg NewMet BID
Glucose (mg/dL)
Time (min)
400
300
200
100
0
100
200
300
400
500
600

FIG. 13

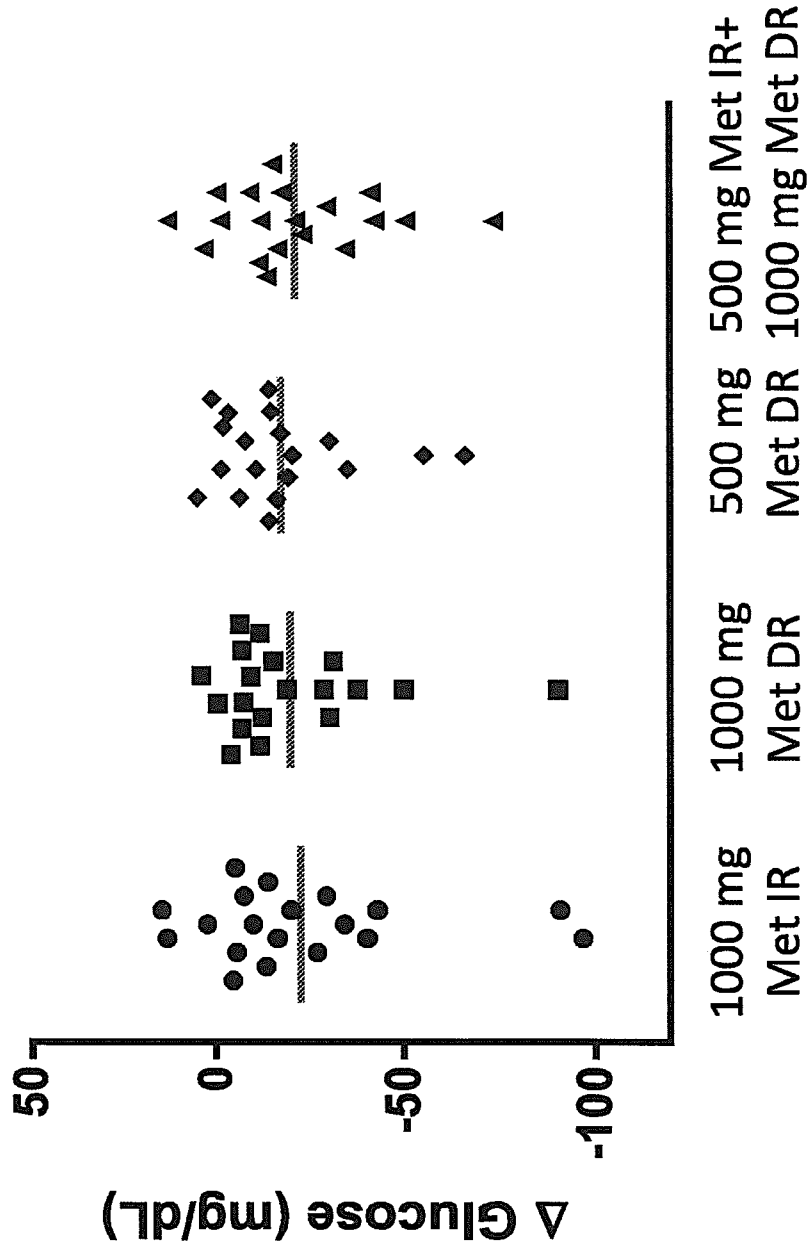

Δ Glucose (mg/dL)
50
0
-50
-100
1000 mg Met IR
1000 mg Met DR
500 mg Met DR
500 mg Met IR+ 1000 mg Met DR

FIG. 14

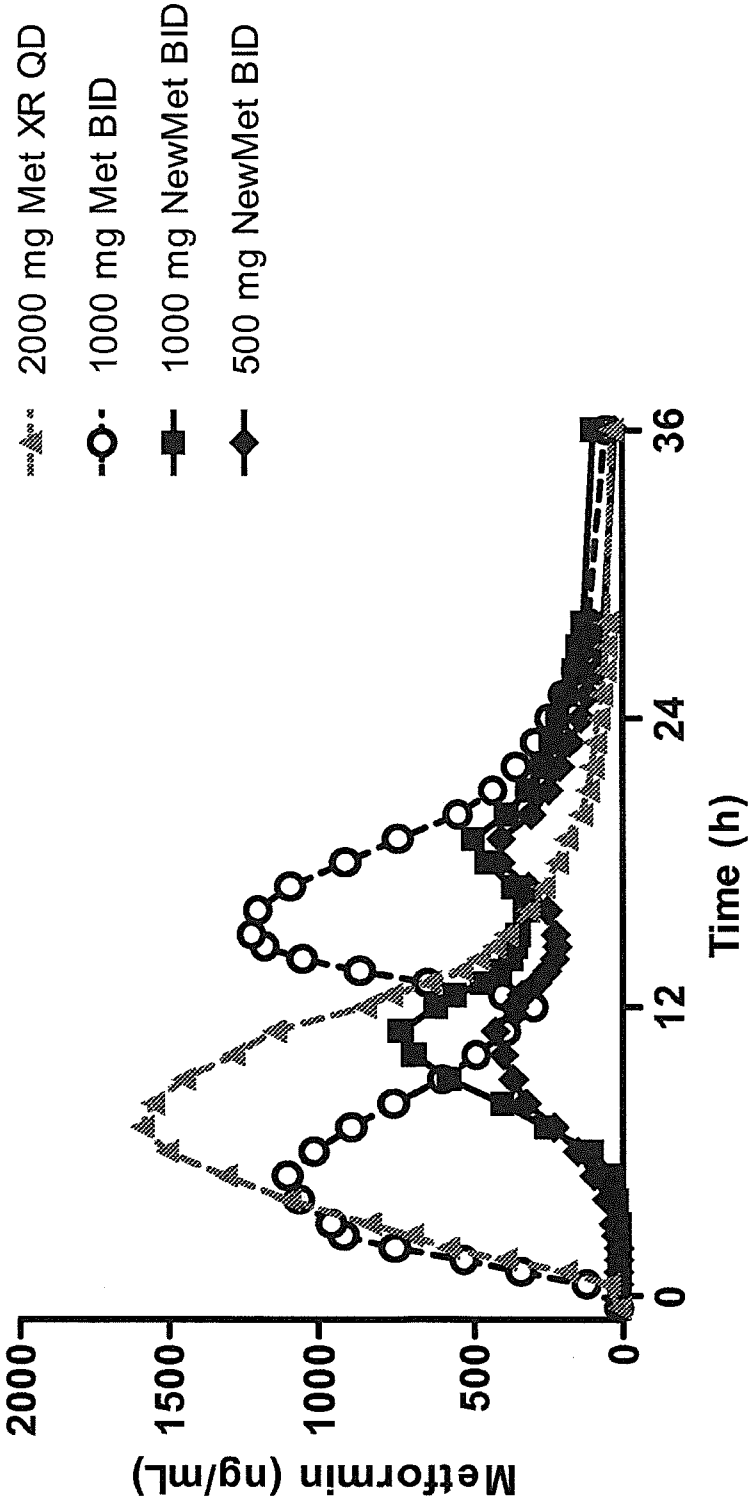

2000 mg Met XR QD
1000 mg Met BID
1000 mg NewMet BID
500 mg NewMet BID
Metformin (ng/mL)
2000
1500
1000
500
0
0
12
24
36
Time (h)

FIG. 15

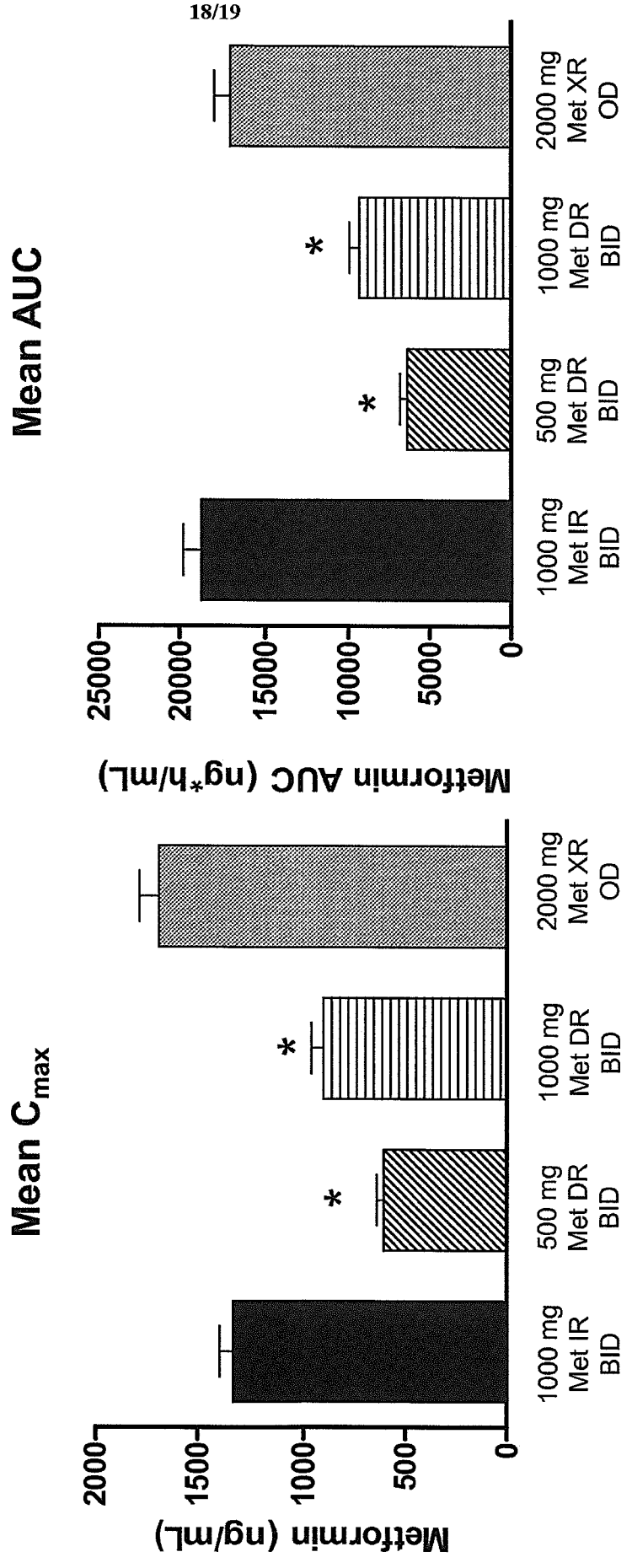
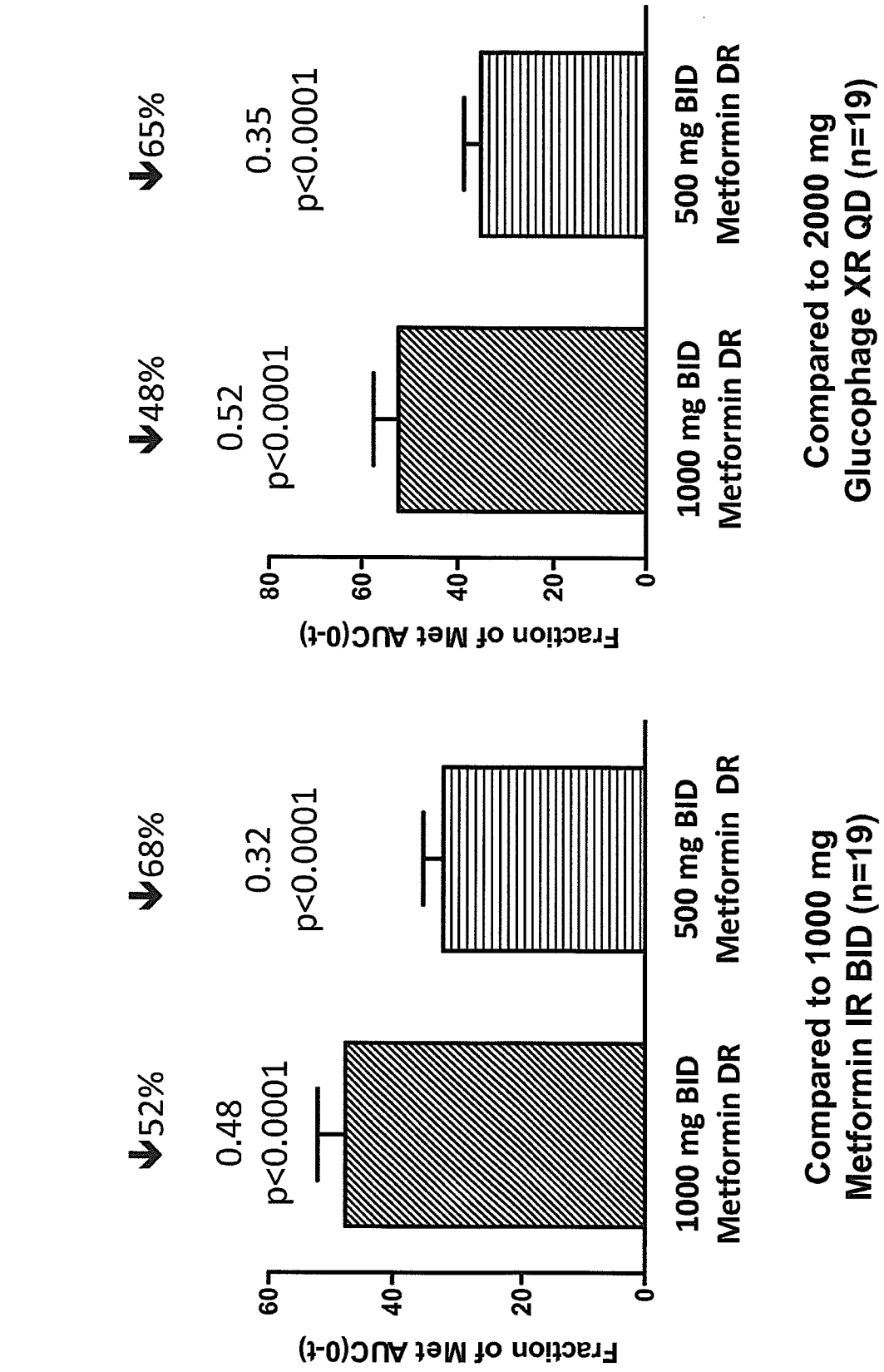

Mean C_{max}
Metformin (ng/mL)
2000
1500
1000
500
0
*
*
1000 mg Met IR BID
500 mg Met DR BID
1000 mg Met DR BID
2000 mg Met XR OD
Mean AUC
Metformin AUC (ng*h/mL)
25000
20000
15000
10000
5000
0
*
*
1000 mg Met IR BID
500 mg Met DR BID
1000 mg Met DR BID
2000 mg Met XR OD

FIG. 16


Fraction of Met AUC(0-t)
0
20
40
60
0.48
p<0.0001
↓52%
0.32
p<0.0001
↓68%
1000 mg BID
Metformin DR
500 mg BID
Metformin DR
Compared to 1000 mg
Metformin IR BID (n=19)
Fraction of Met AUC(0-t)
0
20
40
60
80
0.52
p<0.0001
↓48%
0.35
p<0.0001
↓65%
1000 mg BID
Metformin DR
500 mg BID
Metformin DR
Compared to 2000 mg
Glucophage XR QD (n=19)