Fig.1

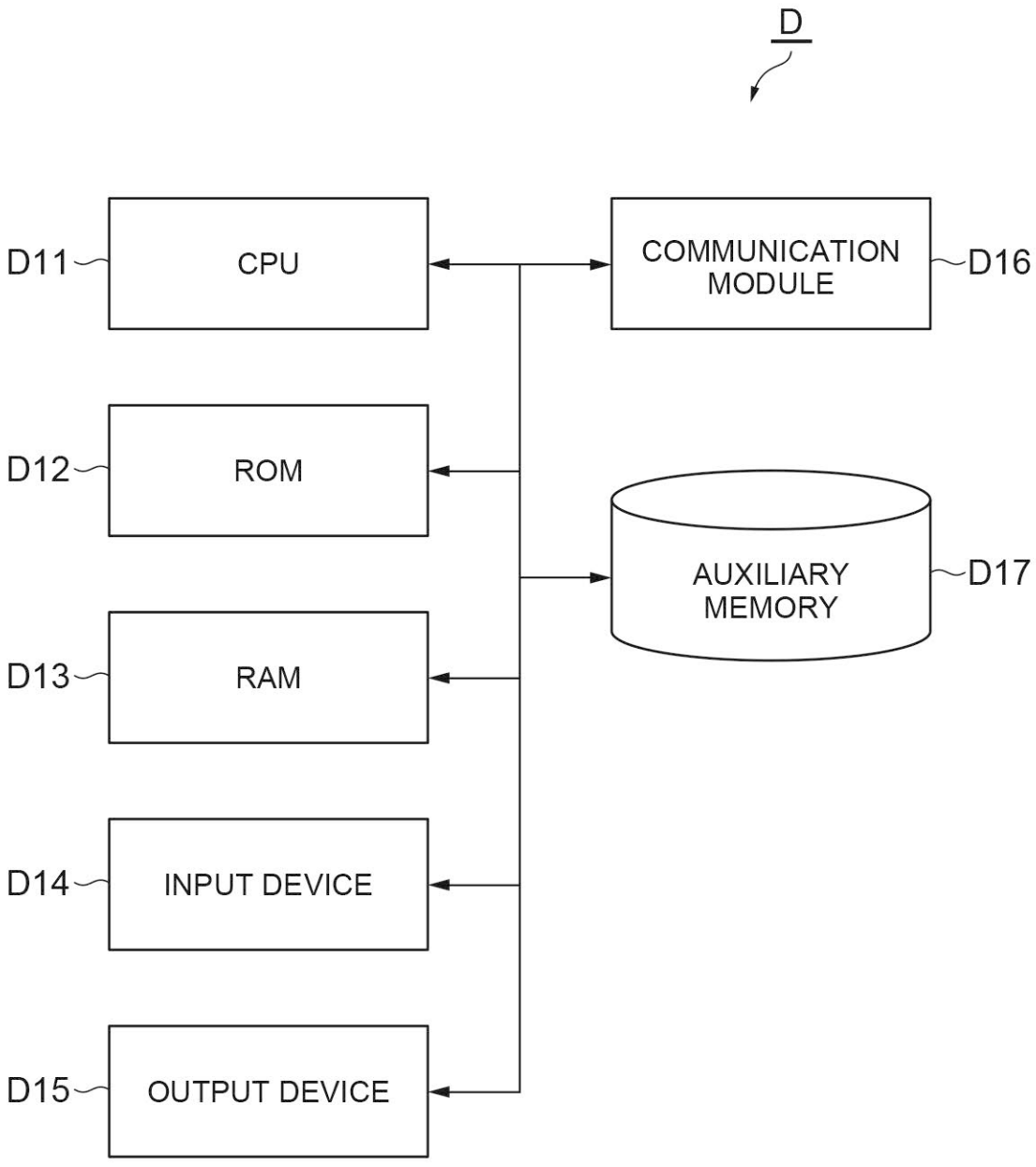

D
D11
CPU
COMMUNICATION MODULE
D16
D12
ROM
AUXILIARY MEMORY
D17
D13
RAM
D14
INPUT DEVICE
D15
OUTPUT DEVICE

Fig.2

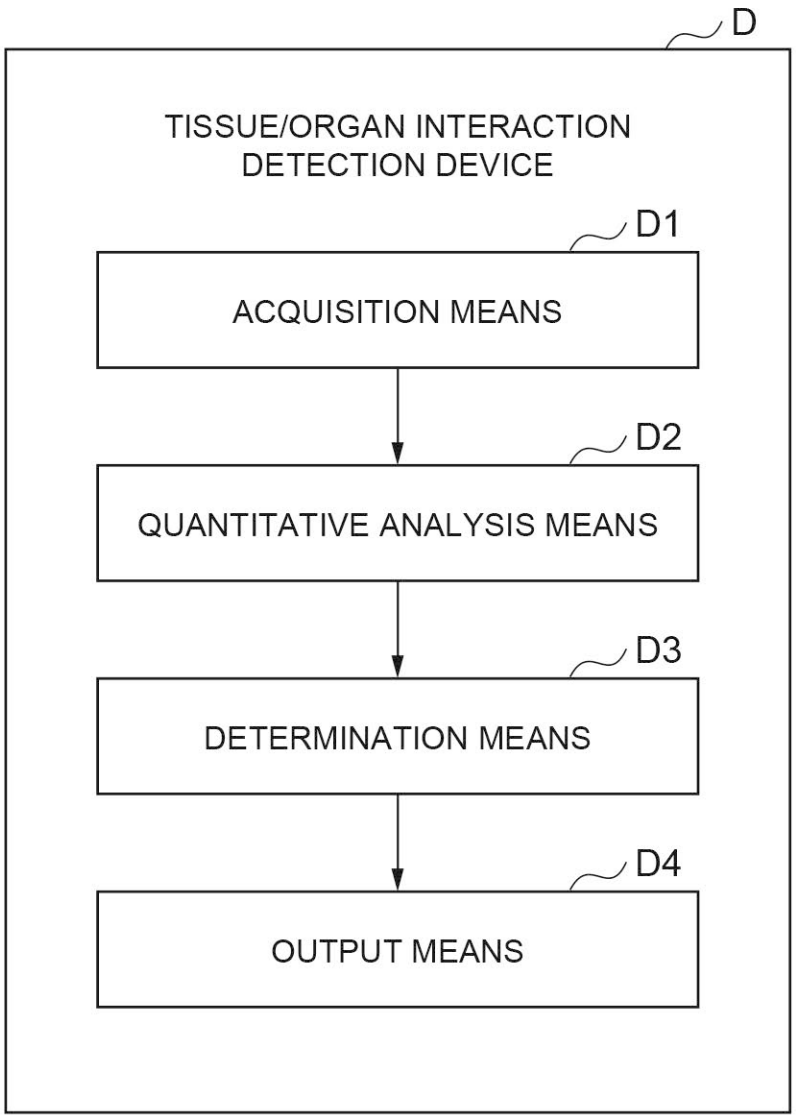

D
TISSUE/ORGAN INTERACTION
DETECTION DEVICE
D1
ACQUISITION MEANS
D2
QUANTITATIVE ANALYSIS MEANS
D3
DETERMINATION MEANS
D4
OUTPUT MEANS

Fig.3

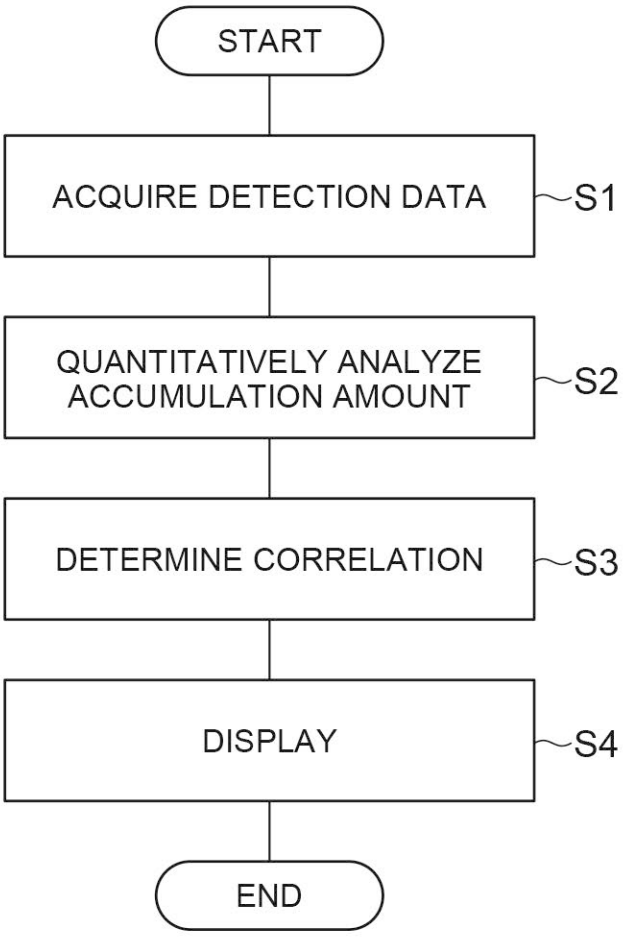

START
ACQUIRE DETECTION DATA
S1
QUANTITATIVELY ANALYZE ACCUMULATION AMOUNT
S2
DETERMINE CORRELATION
S3
DISPLAY
S4
END

Fig.4

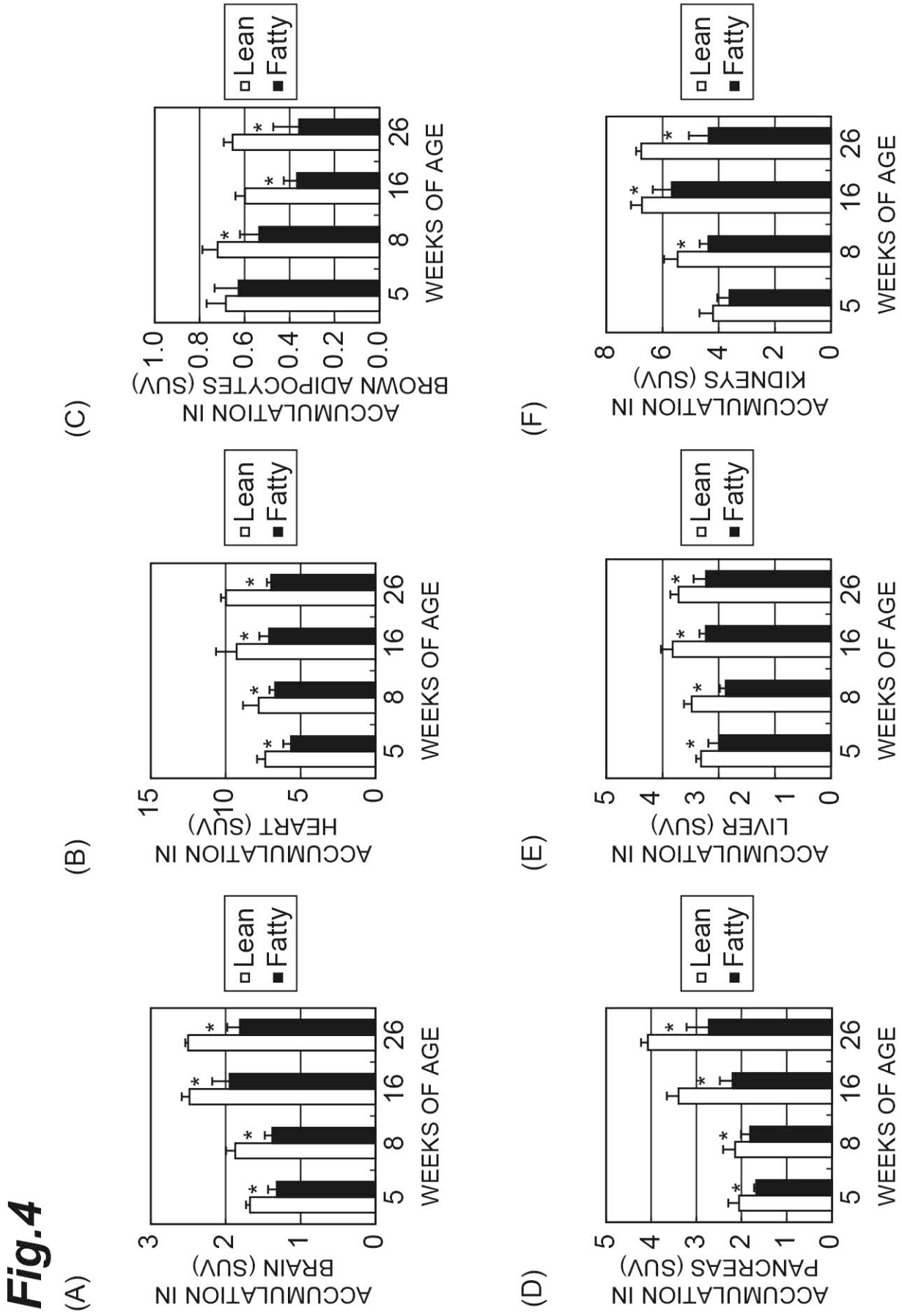

(A)
ACCUMULATION IN BRAIN (SUV)
(B)
ACCUMULATION IN HEART (SUV)
(C)
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
(D)
ACCUMULATION IN PANCREAS (SUV)
(E)
ACCUMULATION IN LIVER (SUV)
(F)
ACCUMULATION IN KIDNEYS (SUV)
WEEKS OF AGE
Lean
Fatty

Fig.5

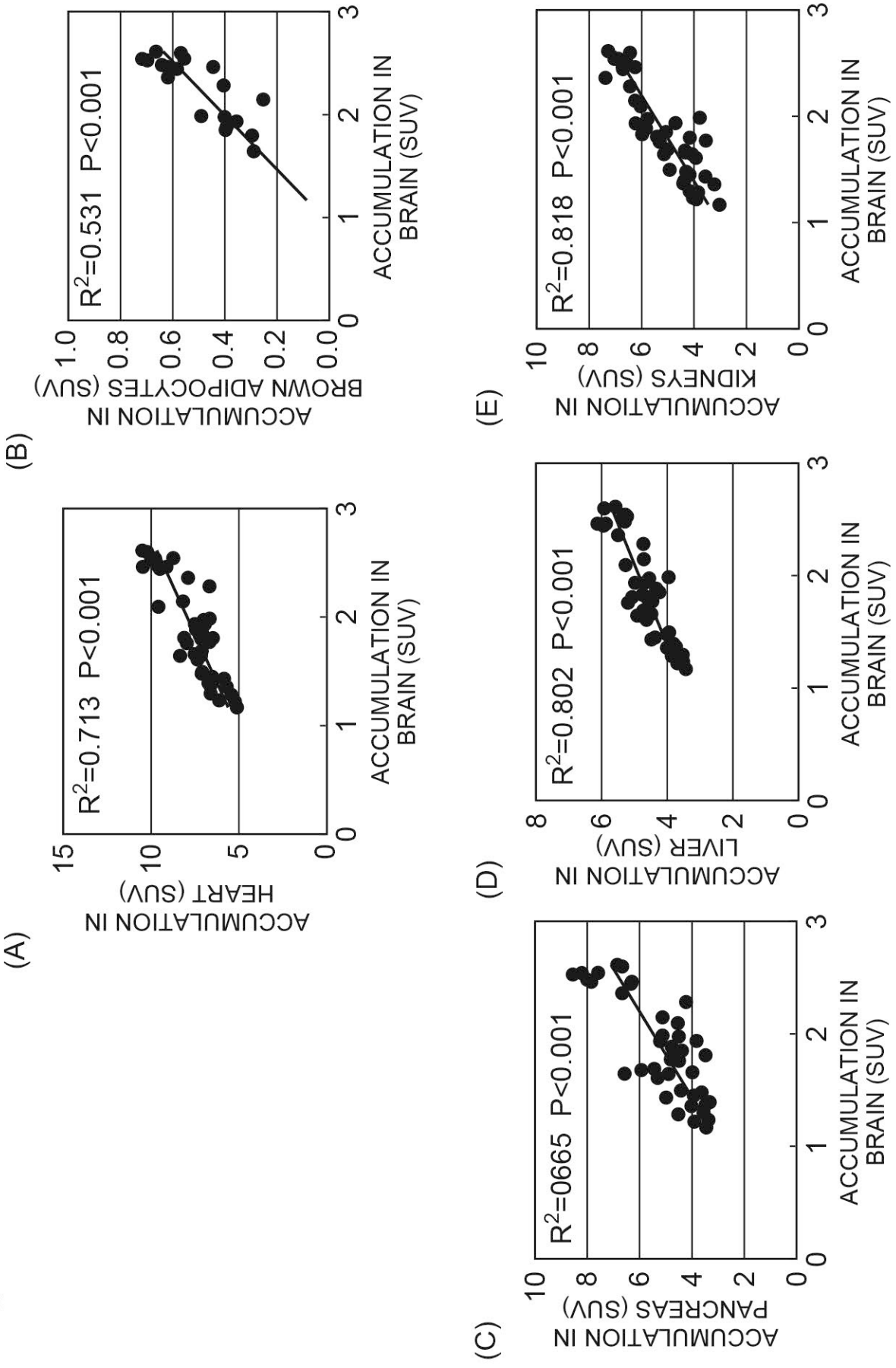

(A)
ACCUMULATION IN HEART (SUV)
R^2=0.713 P<0.001
ACCUMULATION IN BRAIN (SUV)
(B)
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
R^2=0.531 P<0.001
ACCUMULATION IN BRAIN (SUV)
(C)
ACCUMULATION IN PANCREAS (SUV)
R^2=0665 P<0.001
ACCUMULATION IN BRAIN (SUV)
(D)
ACCUMULATION IN LIVER (SUV)
R^2=0.802 P<0.001
ACCUMULATION IN BRAIN (SUV)
(E)
ACCUMULATION IN KIDNEYS (SUV)
R^2=0.818 P<0.001
ACCUMULATION IN BRAIN (SUV)

Fig.6

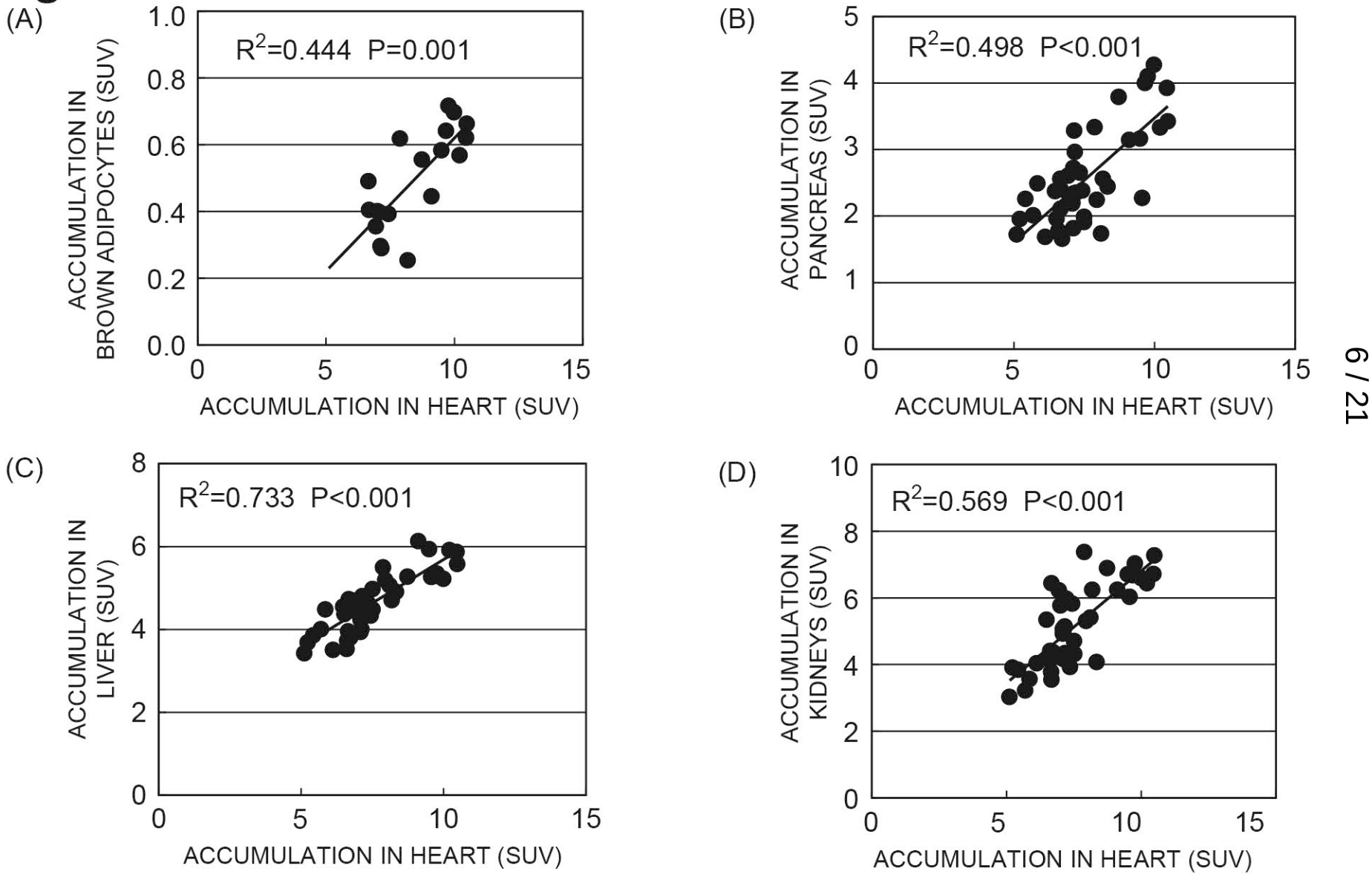
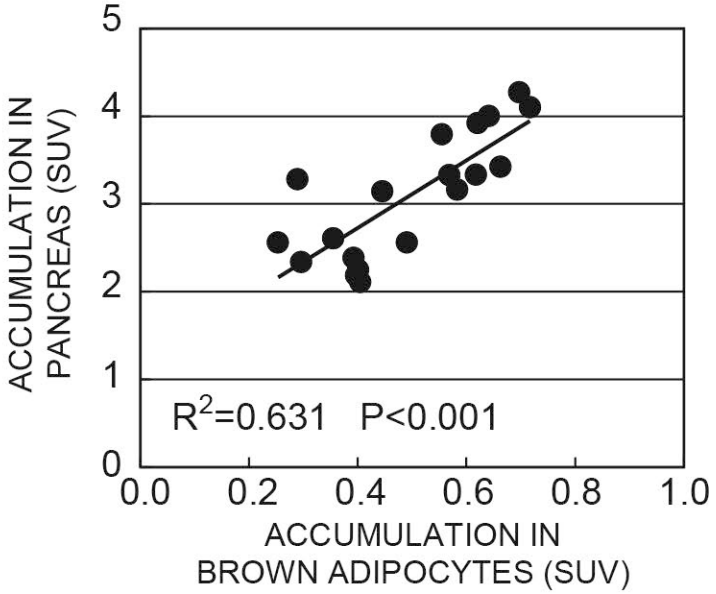
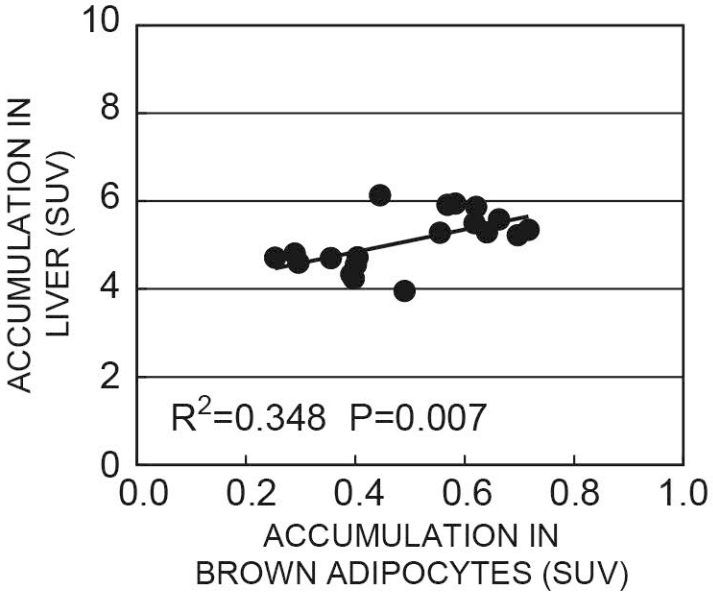

(A)
R^2=0.444 P=0.001
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
ACCUMULATION IN HEART (SUV)
(B)
R^2=0.498 P<0.001
ACCUMULATION IN PANCREAS (SUV)
ACCUMULATION IN HEART (SUV)
(C)
R^2=0.733 P<0.001
ACCUMULATION IN LIVER (SUV)
ACCUMULATION IN HEART (SUV)
(D)
R^2=0.569 P<0.001
ACCUMULATION IN KIDNEYS (SUV)
ACCUMULATION IN HEART (SUV)

Fig.7

(A)


ACCUMULATION IN PANCREAS (SUV)
5
4
3
2
1
0
R2=0.631 P<0.001
0.0 0.2 0.4 0.6 0.8 1.0
ACCUMULATION IN BROWN ADIPOCYTES (SUV)

(B)


ACCUMULATION IN LIVER (SUV)
10
8
6
4
2
0
R2=0.348 P=0.007
0.0 0.2 0.4 0.6 0.8 1.0
ACCUMULATION IN BROWN ADIPOCYTES (SUV)

(C)

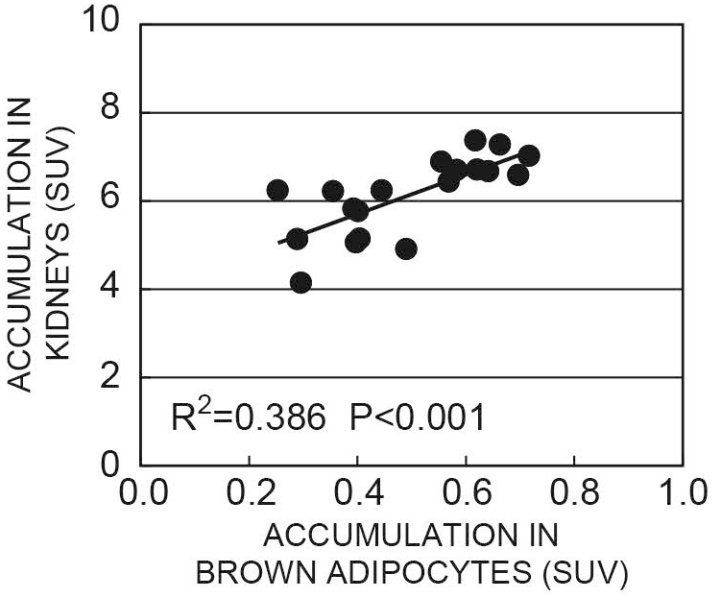
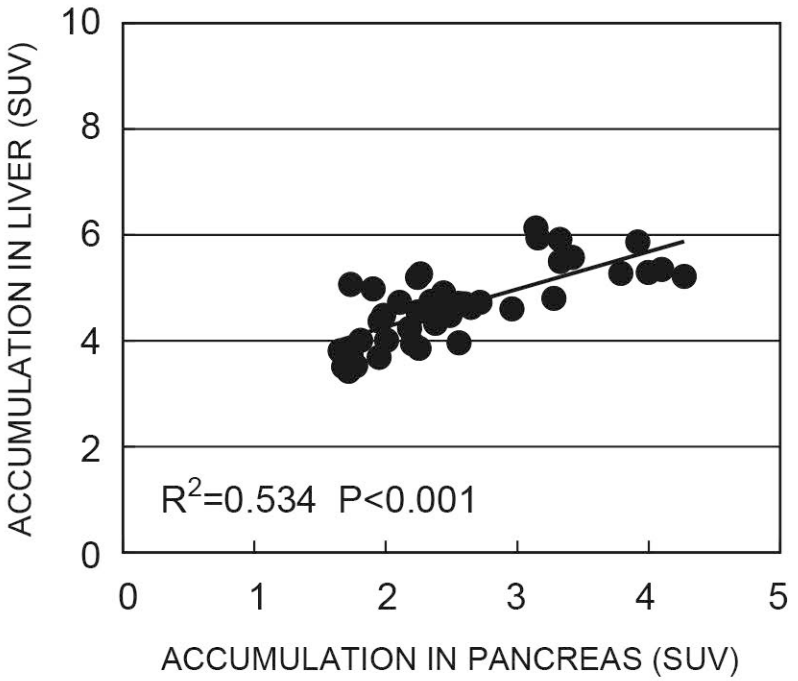

ACCUMULATION IN KIDNEYS (SUV)
10
8
6
4
2
0
R2=0.386 P<0.001
0.0 0.2 0.4 0.6 0.8 1.0
ACCUMULATION IN BROWN ADIPOCYTES (SUV)

Fig.8

(A)


ACCUMULATION IN LIVER (SUV)
10
8
6
4
2
0
0
1
2
3
4
5
R^2=0.534 P<0.001
ACCUMULATION IN PANCREAS (SUV)

(B)

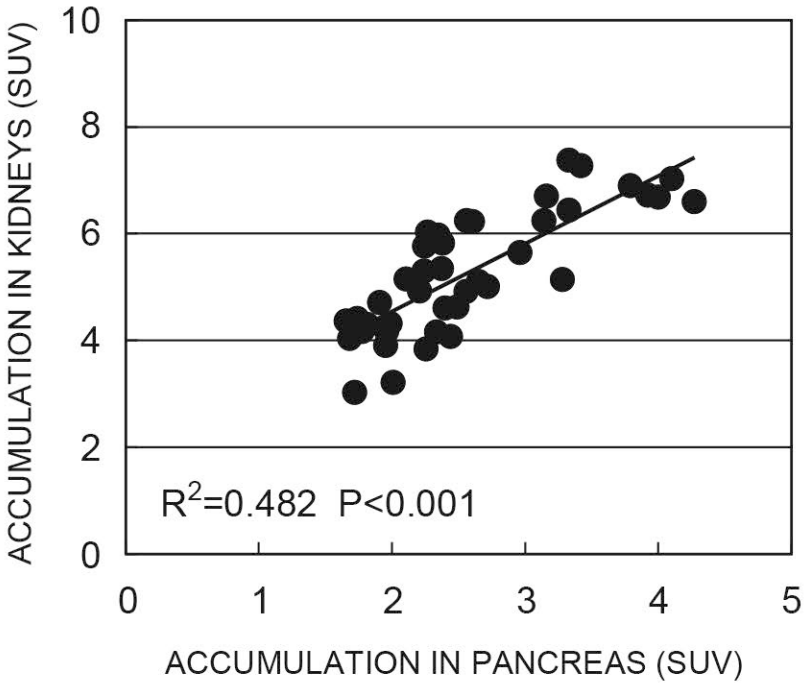

ACCUMULATION IN KIDNEYS (SUV)
10
8
6
4
2
0
0
1
2
3
4
5
R^2=0.482 P<0.001
ACCUMULATION IN PANCREAS (SUV)

Fig.9

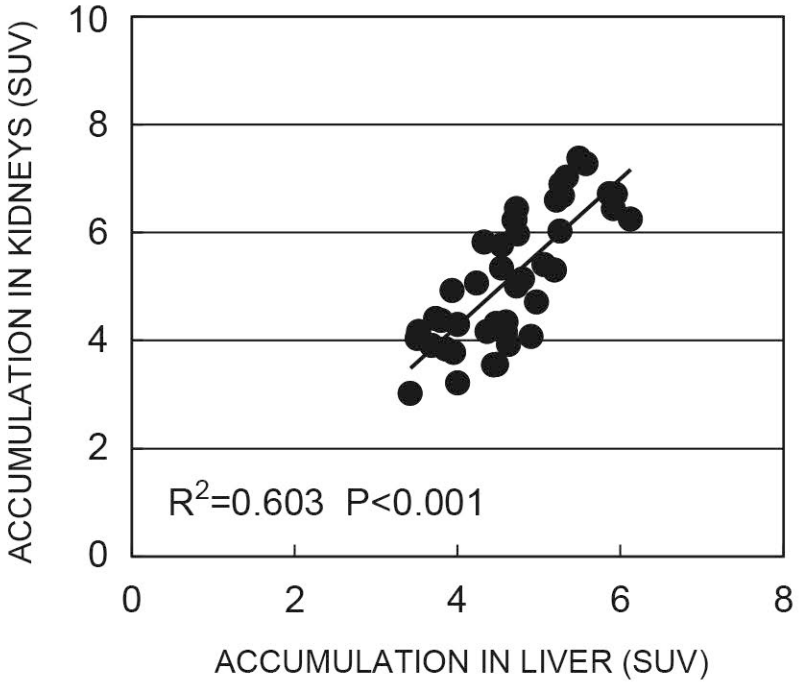

ACCUMULATION IN KIDNEYS (SUV)
10
8
6
4
2
0
0
2
4
6
8
ACCUMULATION IN LIVER (SUV)
R2=0.603 P<0.001

Fig.10

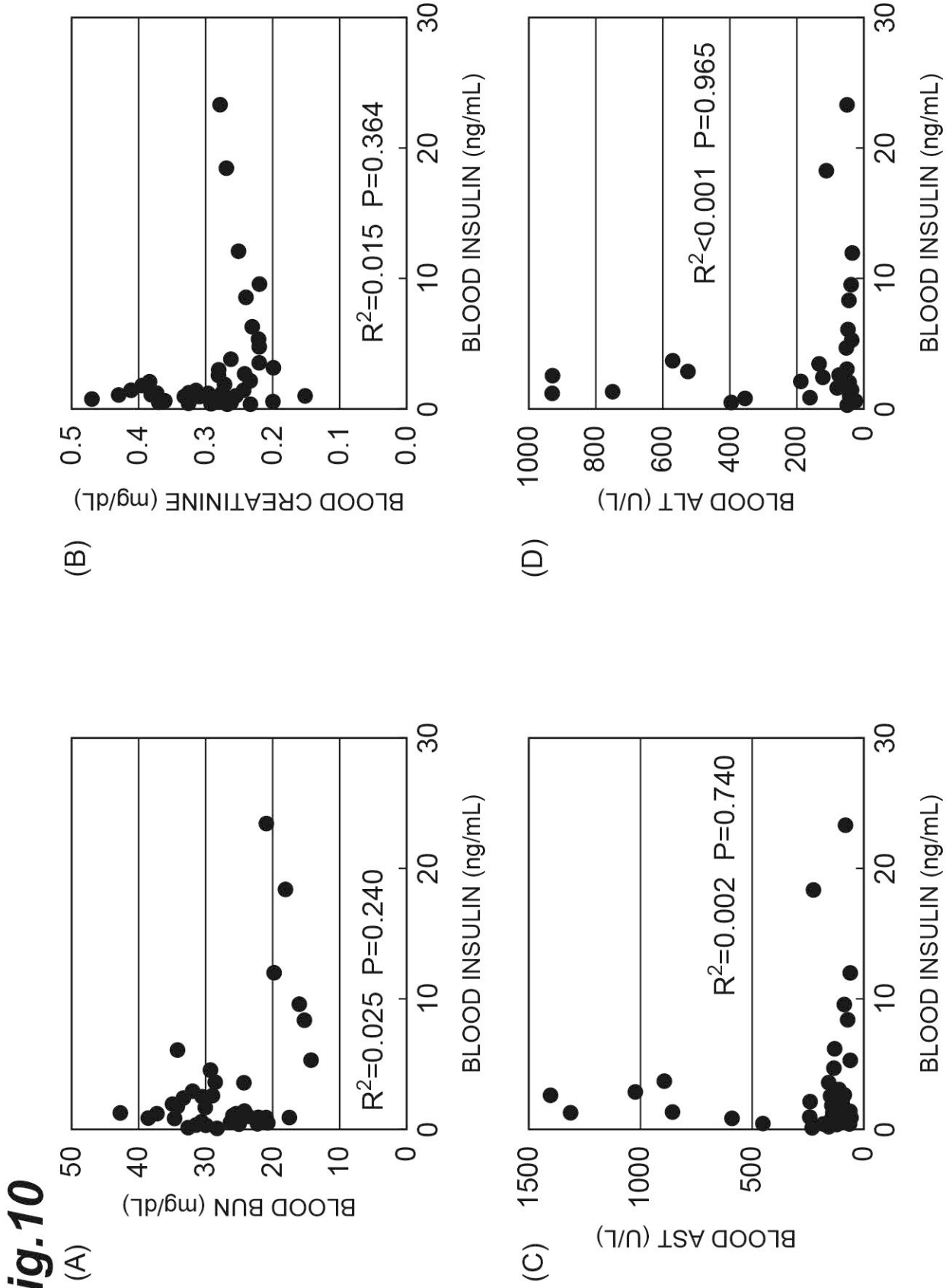

(A)
BLOOD BUN (mg/dL)
R^2=0.025 P=0.240
BLOOD INSULIN (ng/mL)
(B)
BLOOD CREATININE (mg/dL)
R^2=0.015 P=0.364
BLOOD INSULIN (ng/mL)
(C)
BLOOD AST (U/L)
R^2=0.002 P=0.740
BLOOD INSULIN (ng/mL)
(D)
BLOOD ALT (U/L)
R^2<0.001 P=0.965
BLOOD INSULIN (ng/mL)

Fig.11

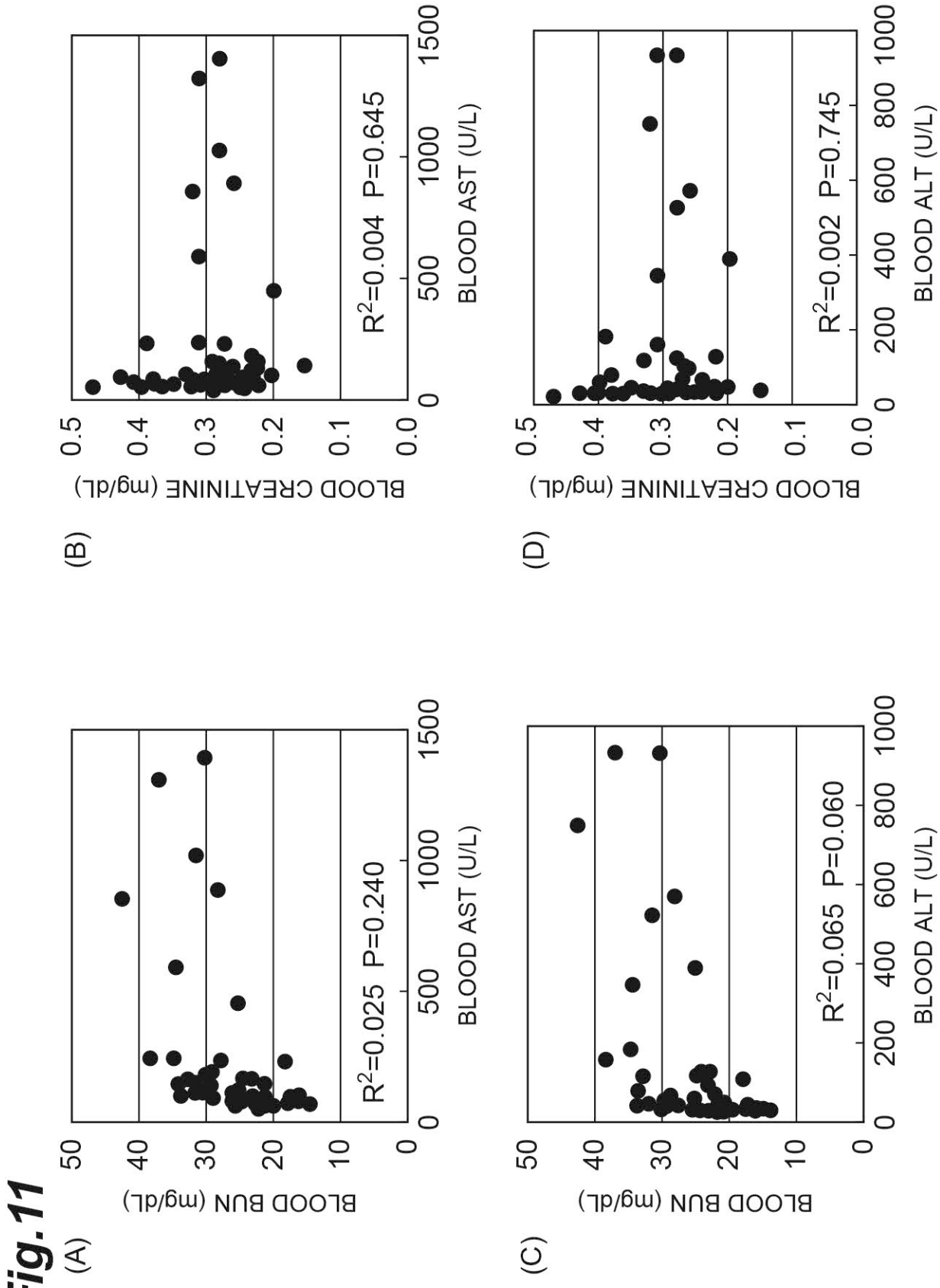

(A)
BLOOD BUN (mg/dL)
BLOOD AST (U/L)
R2=0.025 P=0.240
(B)
BLOOD CREATININE (mg/dL)
BLOOD AST (U/L)
R2=0.004 P=0.645
(C)
BLOOD BUN (mg/dL)
BLOOD ALT (U/L)
R2=0.065 P=0.060
(D)
BLOOD CREATININE (mg/dL)
BLOOD ALT (U/L)
R2=0.002 P=0.745

Fig.12

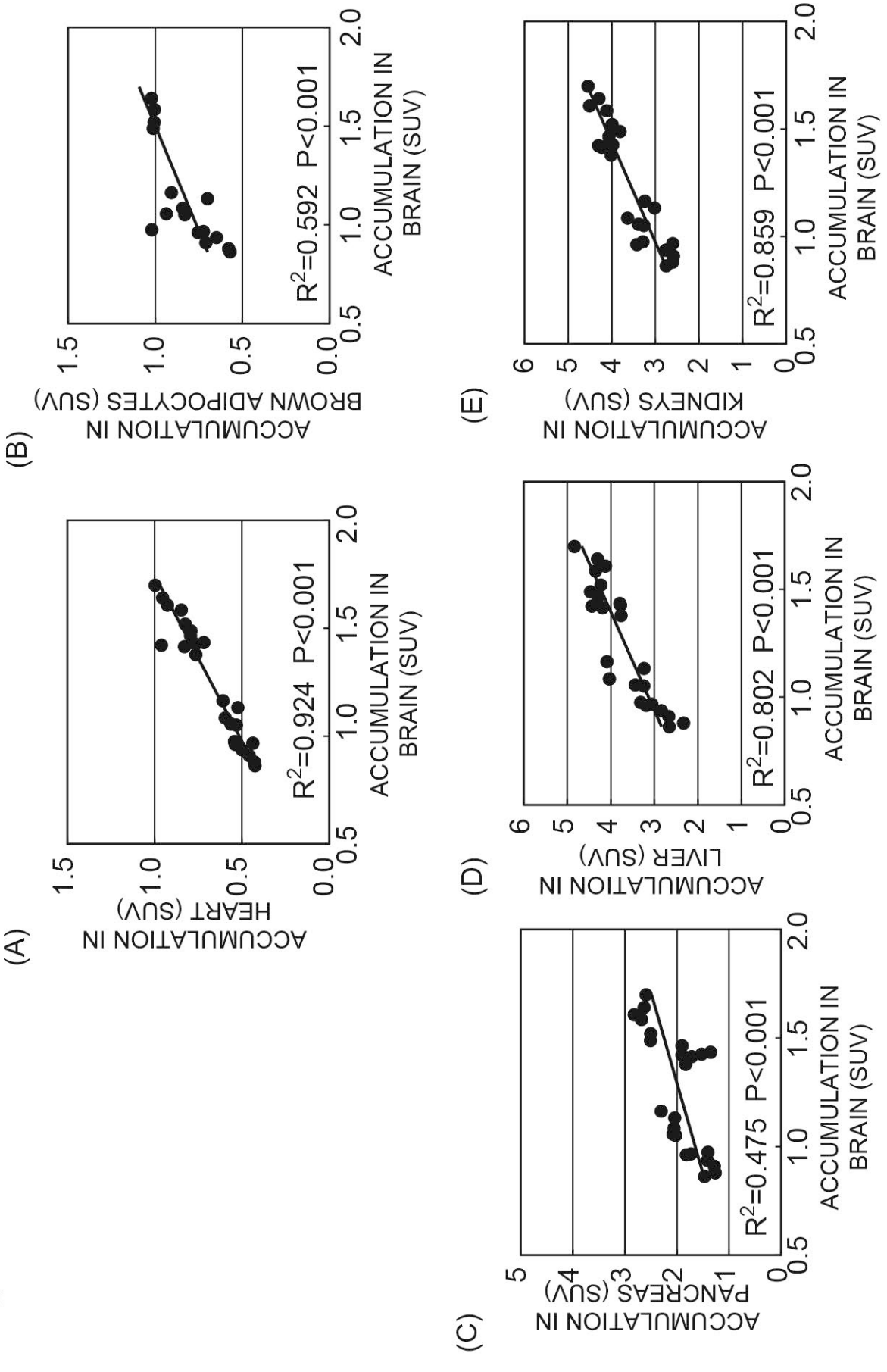

(A)
ACCUMULATION IN HEART (SUV)
R2=0.924 P<0.001
ACCUMULATION IN BRAIN (SUV)
(B)
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
R2=0.592 P<0.001
ACCUMULATION IN BRAIN (SUV)
(C)
ACCUMULATION IN PANCREAS (SUV)
R2=0.475 P<0.001
ACCUMULATION IN BRAIN (SUV)
(D)
ACCUMULATION IN LIVER (SUV)
R2=0.802 P<0.001
ACCUMULATION IN BRAIN (SUV)
(E)
ACCUMULATION IN KIDNEYS (SUV)
R2=0.859 P<0.001
ACCUMULATION IN BRAIN (SUV)

Fig.13

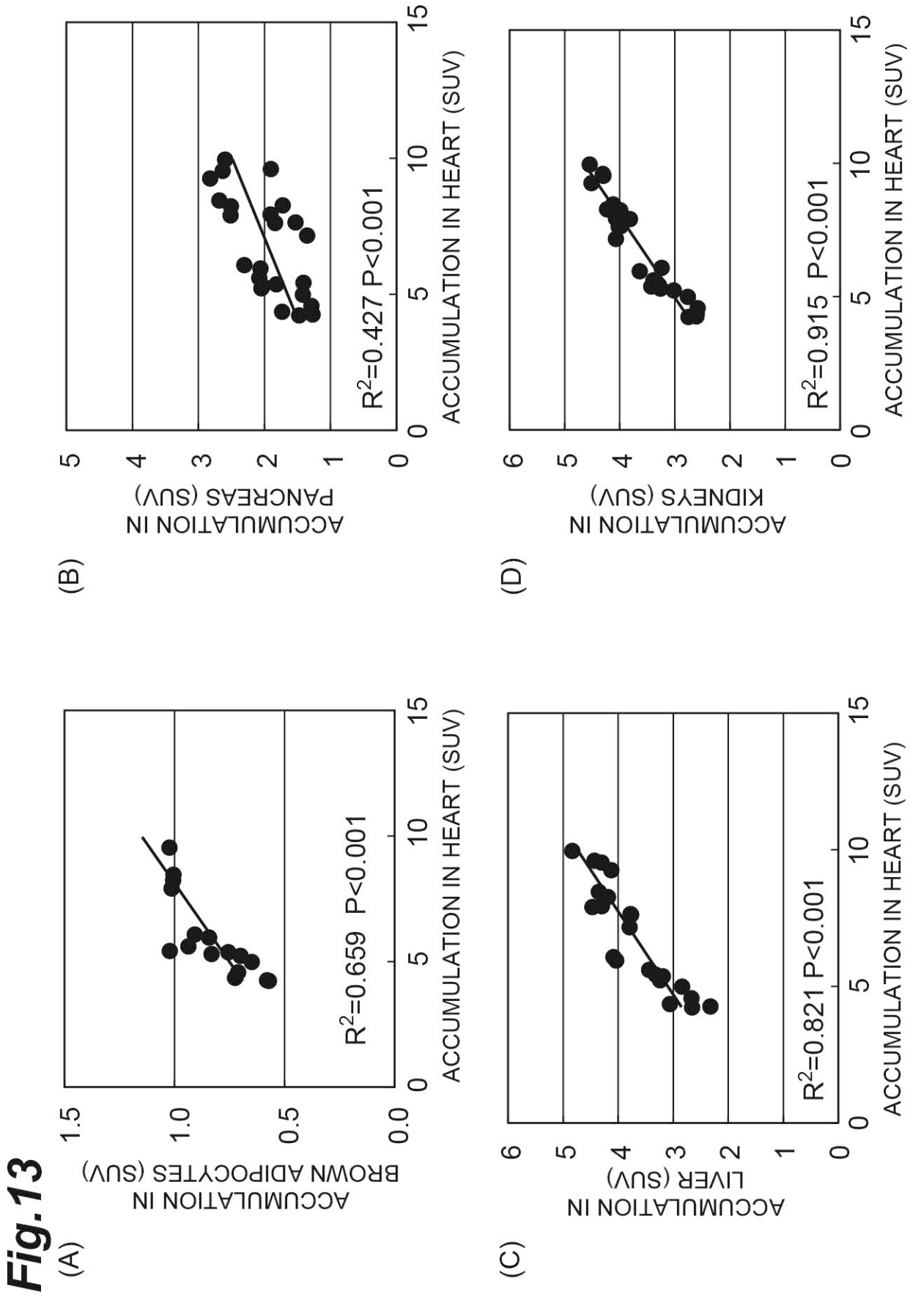
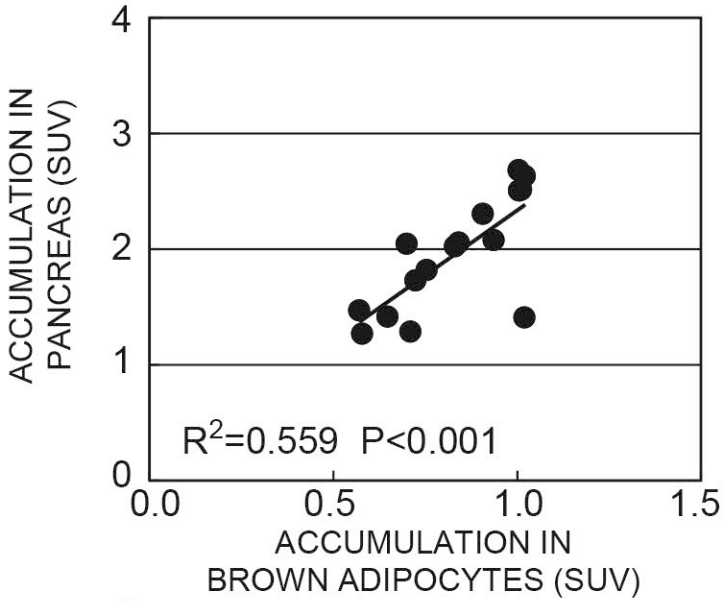
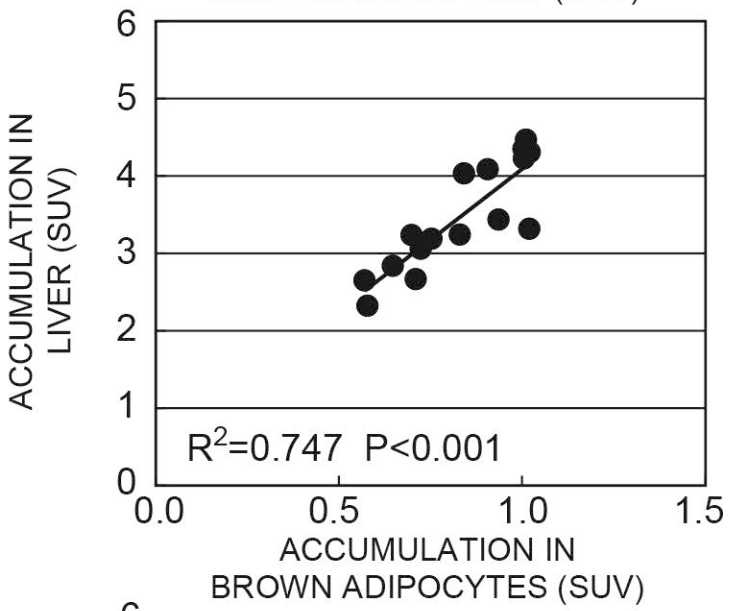

(A)
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
1.5
1.0
0.5
0.0
0
5
10
15
ACCUMULATION IN HEART (SUV)
R2=0.659 P<0.001
(B)
ACCUMULATION IN PANCREAS (SUV)
5
4
3
2
1
0
0
5
10
15
ACCUMULATION IN HEART (SUV)
R2=0.427 P<0.001
(C)
ACCUMULATION IN LIVER (SUV)
6
5
4
3
2
1
0
0
5
10
15
ACCUMULATION IN HEART (SUV)
R2=0.821 P<0.001
(D)
ACCUMULATION IN KIDNEYS (SUV)
6
5
4
3
2
1
0
0
5
10
15
ACCUMULATION IN HEART (SUV)
R2=0.915 P<0.001

Fig.14

(A)


ACCUMULATION IN PANCREAS (SUV)
4
3
2
1
0
R^2=0.559 P<0.001
0.0
0.5
1.0
1.5
ACCUMULATION IN BROWN ADIPOCYTES (SUV)

(B)


ACCUMULATION IN LIVER (SUV)
6
5
4
3
2
1
0
R^2=0.747 P<0.001
0.0
0.5
1.0
1.5
ACCUMULATION IN BROWN ADIPOCYTES (SUV)

(C)

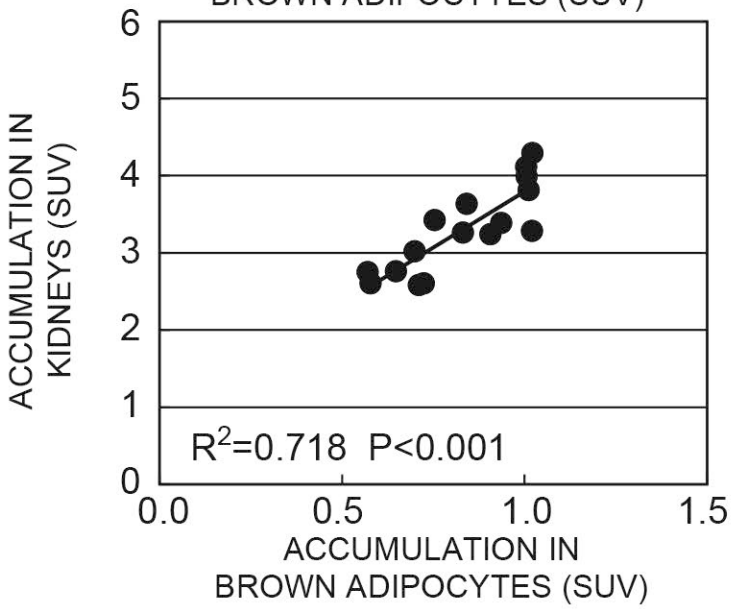
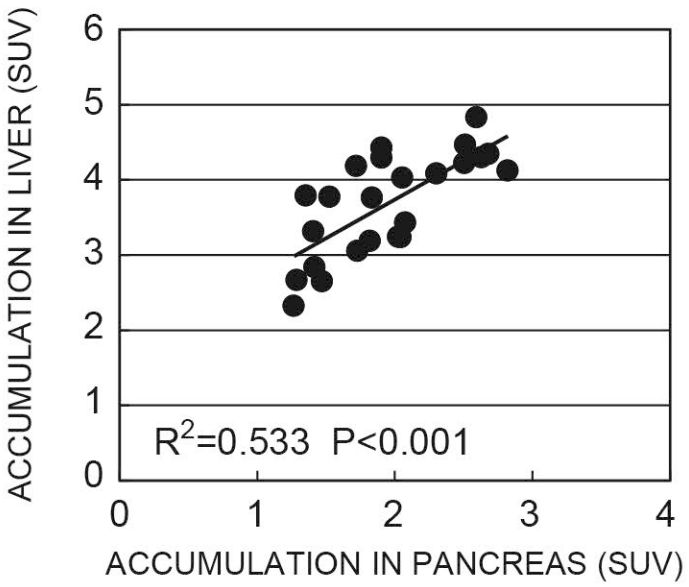

ACCUMULATION IN KIDNEYS (SUV)
6
5
4
3
2
1
0
R^2=0.718 P<0.001
0.0
0.5
1.0
1.5
ACCUMULATION IN BROWN ADIPOCYTES (SUV)

Fig.15

(A)


ACCUMULATION IN LIVER (SUV)
6
5
4
3
2
1
0
0
1
2
3
4
ACCUMULATION IN PANCREAS (SUV)
R2=0.533 P<0.001

(B)

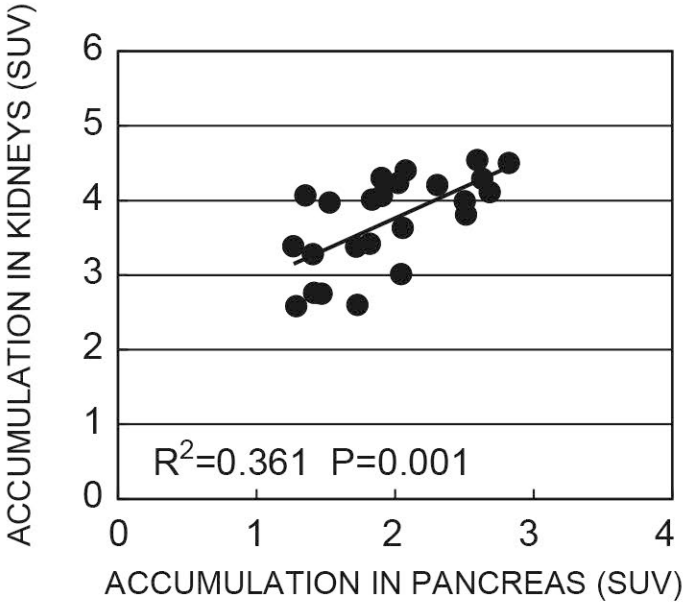

ACCUMULATION IN KIDNEYS (SUV)
6
5
4
3
2
1
0
0
1
2
3
4
ACCUMULATION IN PANCREAS (SUV)
R2=0.361 P=0.001

Fig.16

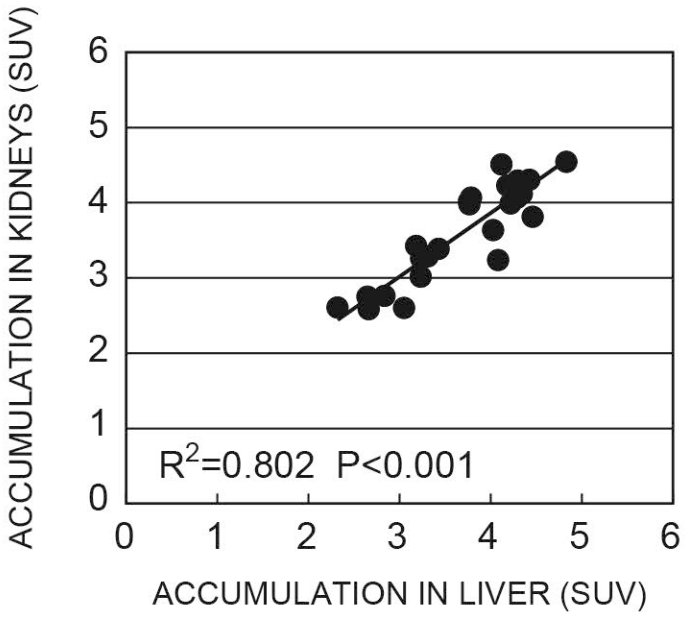

ACCUMULATION IN KIDNEYS (SUV)
6
5
4
3
2
1
0
R^2=0.802 P<0.001
0
1
2
3
4
5
6
ACCUMULATION IN LIVER (SUV)

Fig.17

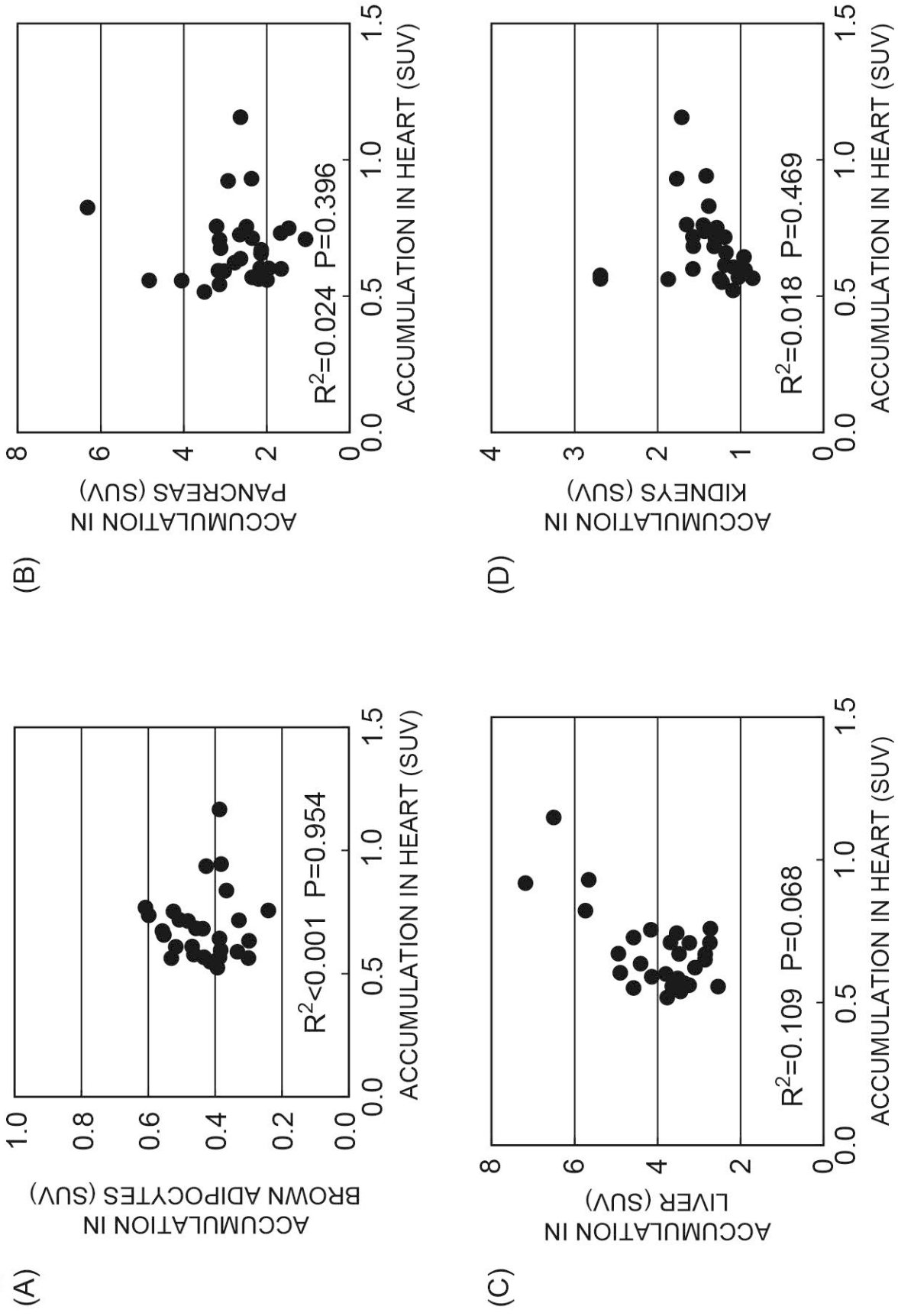

(A)
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.5
1.0
1.5
ACCUMULATION IN HEART (SUV)
R2<0.001 P=0.954
(B)
ACCUMULATION IN PANCREAS (SUV)
8
6
4
2
0
0.0
0.5
1.0
1.5
ACCUMULATION IN HEART (SUV)
R2=0.024 P=0.396
(C)
ACCUMULATION IN LIVER (SUV)
8
6
4
2
0
0.0
0.5
1.0
1.5
ACCUMULATION IN HEART (SUV)
R2=0.109 P=0.068
(D)
ACCUMULATION IN KIDNEYS (SUV)
4
3
2
1
0
0.0
0.5
1.0
1.5
ACCUMULATION IN HEART (SUV)
R2=0.018 P=0.469

Fig.18

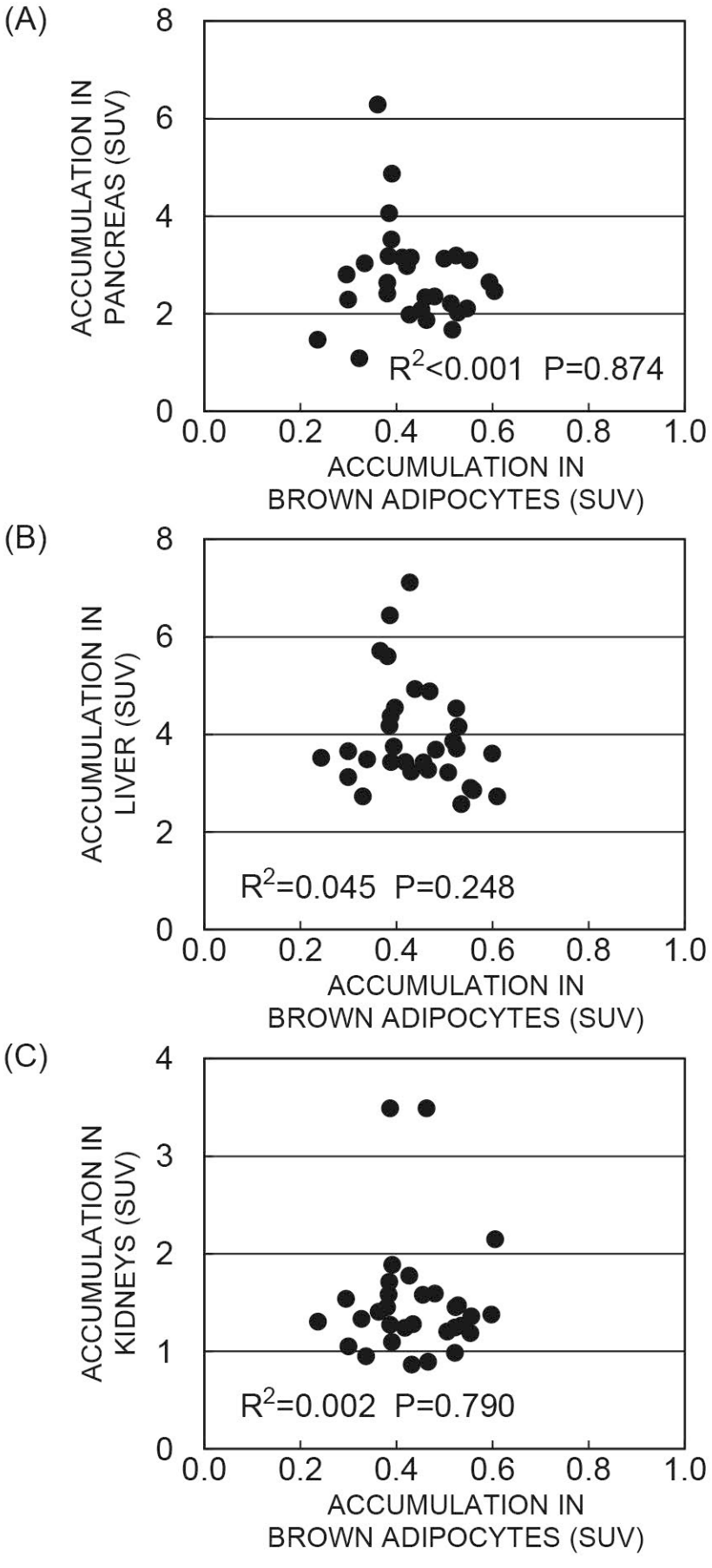

(A)
ACCUMULATION IN PANCREAS (SUV)
8
6
4
2
0
R^2<0.001 P=0.874
0.0 0.2 0.4 0.6 0.8 1.0
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
(B)
ACCUMULATION IN LIVER (SUV)
8
6
4
2
0
R^2=0.045 P=0.248
0.0 0.2 0.4 0.6 0.8 1.0
ACCUMULATION IN BROWN ADIPOCYTES (SUV)
(C)
ACCUMULATION IN KIDNEYS (SUV)
4
3
2
1
0
R^2=0.002 P=0.790
0.0 0.2 0.4 0.6 0.8 1.0
ACCUMULATION IN BROWN ADIPOCYTES (SUV)

Fig.19

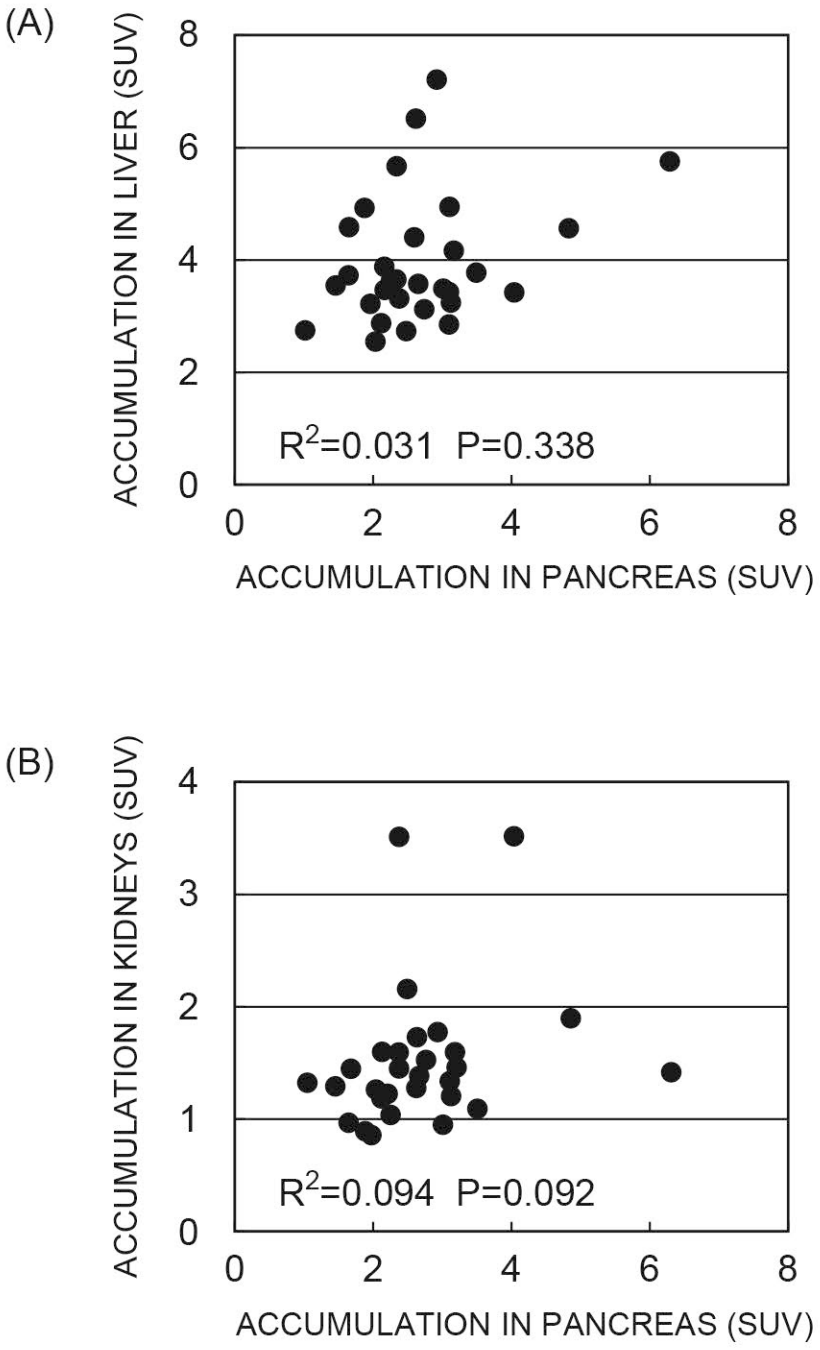

(A)
ACCUMULATION IN LIVER (SUV)
0
2
4
6
8
R2=0.031 P=0.338
ACCUMULATION IN PANCREAS (SUV)
(B)
ACCUMULATION IN KIDNEYS (SUV)
0
1
2
3
4
R2=0.094 P=0.092
ACCUMULATION IN PANCREAS (SUV)

Fig.20

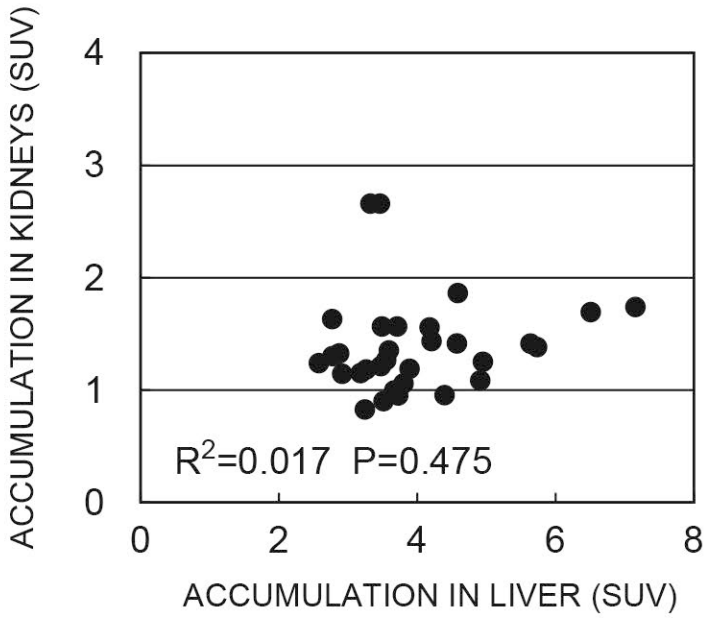
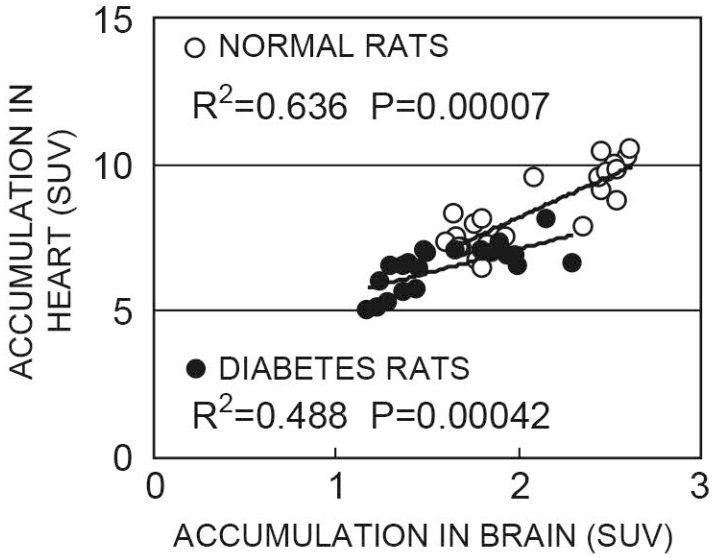
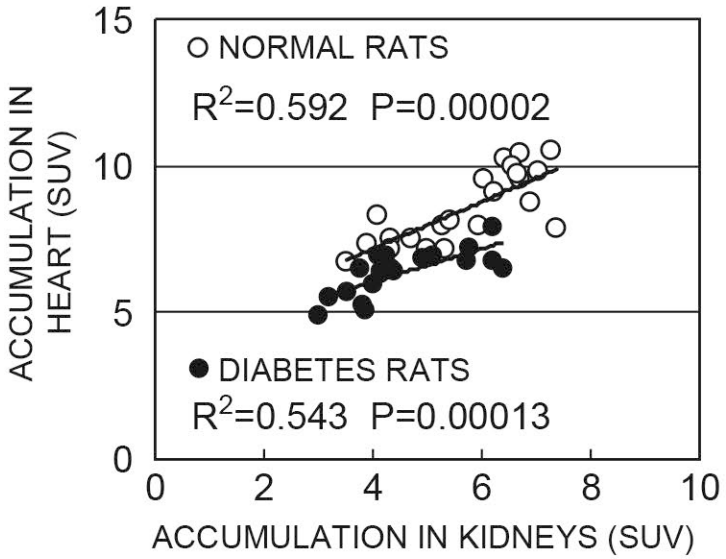

ACCUMULATION IN KIDNEYS (SUV)
4
3
2
1
0
R^2=0.017 P=0.475
0
2
4
6
8
ACCUMULATION IN LIVER (SUV)

Fig.21

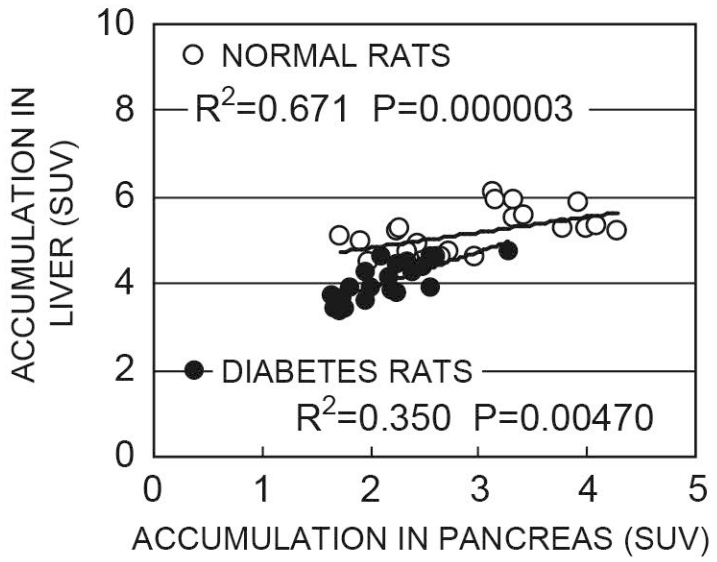
(A)


NORMAL RATS
R^2=0.636 P=0.00007
DIABETES RATS
R^2=0.488 P=0.00042
ACCUMULATION IN HEART (SUV)
ACCUMULATION IN BRAIN (SUV)
0
5
10
15
0
1
2
3

(B)


NORMAL RATS
R^2=0.592 P=0.00002
DIABETES RATS
R^2=0.543 P=0.00013
ACCUMULATION IN HEART (SUV)
ACCUMULATION IN KIDNEYS (SUV)
0
5
10
15
0
2
4
6
8
10

(C)


NORMAL RATS
R^2=0.671 P=0.000003
DIABETES RATS
R^2=0.350 P=0.00470
ACCUMULATION IN LIVER (SUV)
ACCUMULATION IN PANCREAS (SUV)
0
2
4
6
8
10
0
1
2
3
4
5