Figure S1

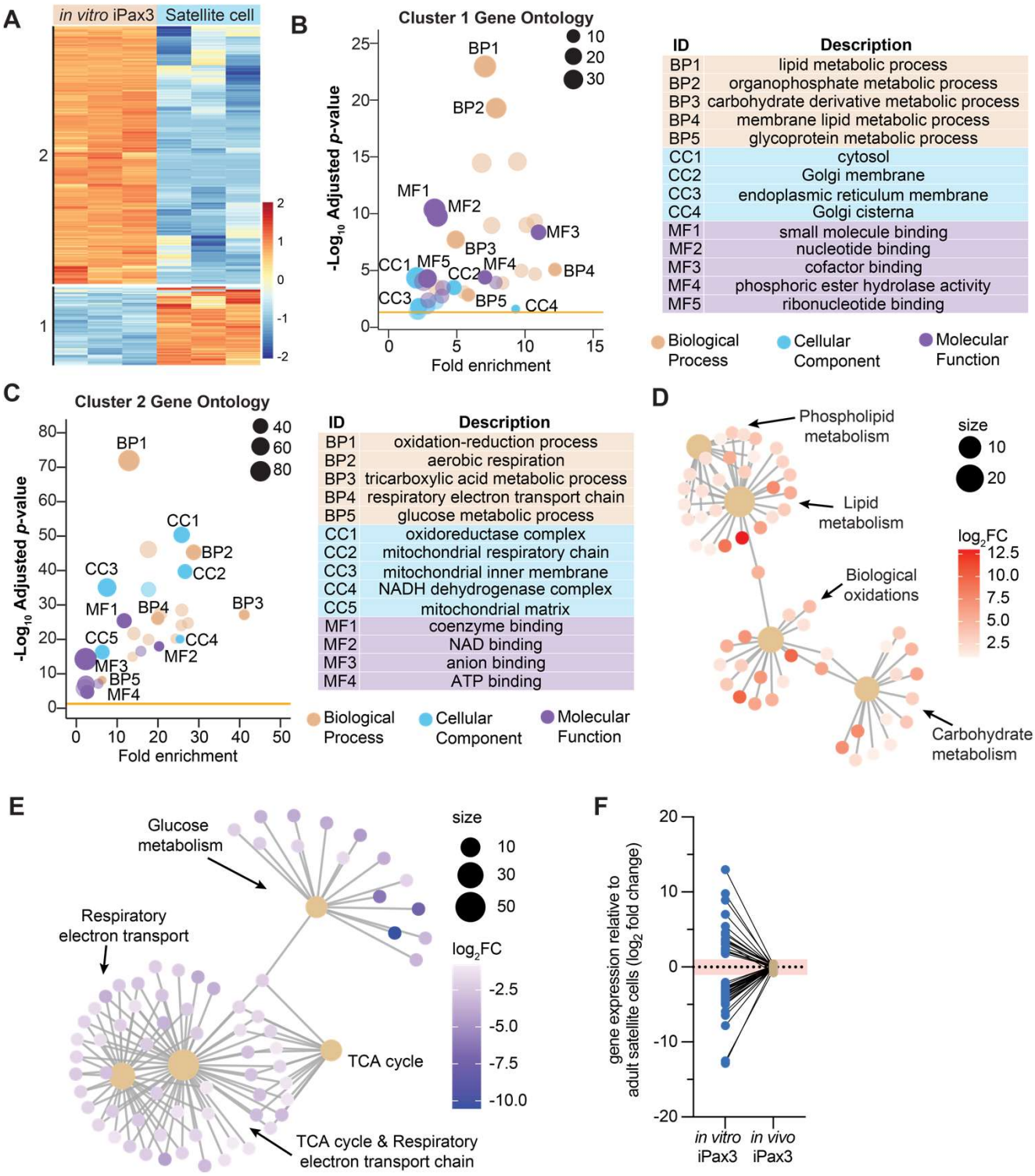

A
in vitro iPax3
Satellite cell
2
1
2
1
0
-1
-2
B
Cluster 1 Gene Ontology
-Log10 Adjusted p-value
Fold enrichment
10
20
30
BP1
BP2
BP3
BP4
BP5
MF1
MF2
MF3
CC1
CC2
CC3
CC4
MF4
MF5
ID
Description
BP1 lipid metabolic process
BP2 organophosphate metabolic process
BP3 carbohydrate derivative metabolic process
BP4 membrane lipid metabolic process
BP5 glycoprotein metabolic process
CC1 cytosol
CC2 Golgi membrane
CC3 endoplasmic reticulum membrane
CC4 Golgi cisterna
MF1 small molecule binding
MF2 nucleotide binding
MF3 cofactor binding
MF4 phosphoric ester hydrolase activity
MF5 ribonucleotide binding
Biological Process
Cellular Component
Molecular Function
C
Cluster 2 Gene Ontology
-Log10 Adjusted p-value
Fold enrichment
40
60
80
BP1
BP2
BP3
BP4
CC1
CC2
CC3
CC4
CC5
MF1
MF2
MF3
MF4
BP5
ID
Description
BP1 oxidation-reduction process
BP2 aerobic respiration
BP3 tricarboxylic acid metabolic process
BP4 respiratory electron transport chain
BP5 glucose metabolic process
CC1 oxidoreductase complex
CC2 mitochondrial respiratory chain
CC3 mitochondrial inner membrane
CC4 NADH dehydrogenase complex
CC5 mitochondrial matrix
MF1 coenzyme binding
MF2 NAD binding
MF3 anion binding
MF4 ATP binding
Biological Process
Cellular Component
Molecular Function
D
Phospholipid metabolism
Lipid metabolism
Biological oxidations
Carbohydrate metabolism
size
10
20
log2FC
12.5
10.0
7.5
5.0
2.5
E
Glucose metabolism
Respiratory electron transport
TCA cycle
TCA cycle & Respiratory electron transport chain
size
10
30
50
log2FC
-2.5
-5.0
-7.5
-10.0
F
gene expression relative to adult satellite cells (log2 fold change)
in vitro iPax3
in vivo iPax3

Figure S2

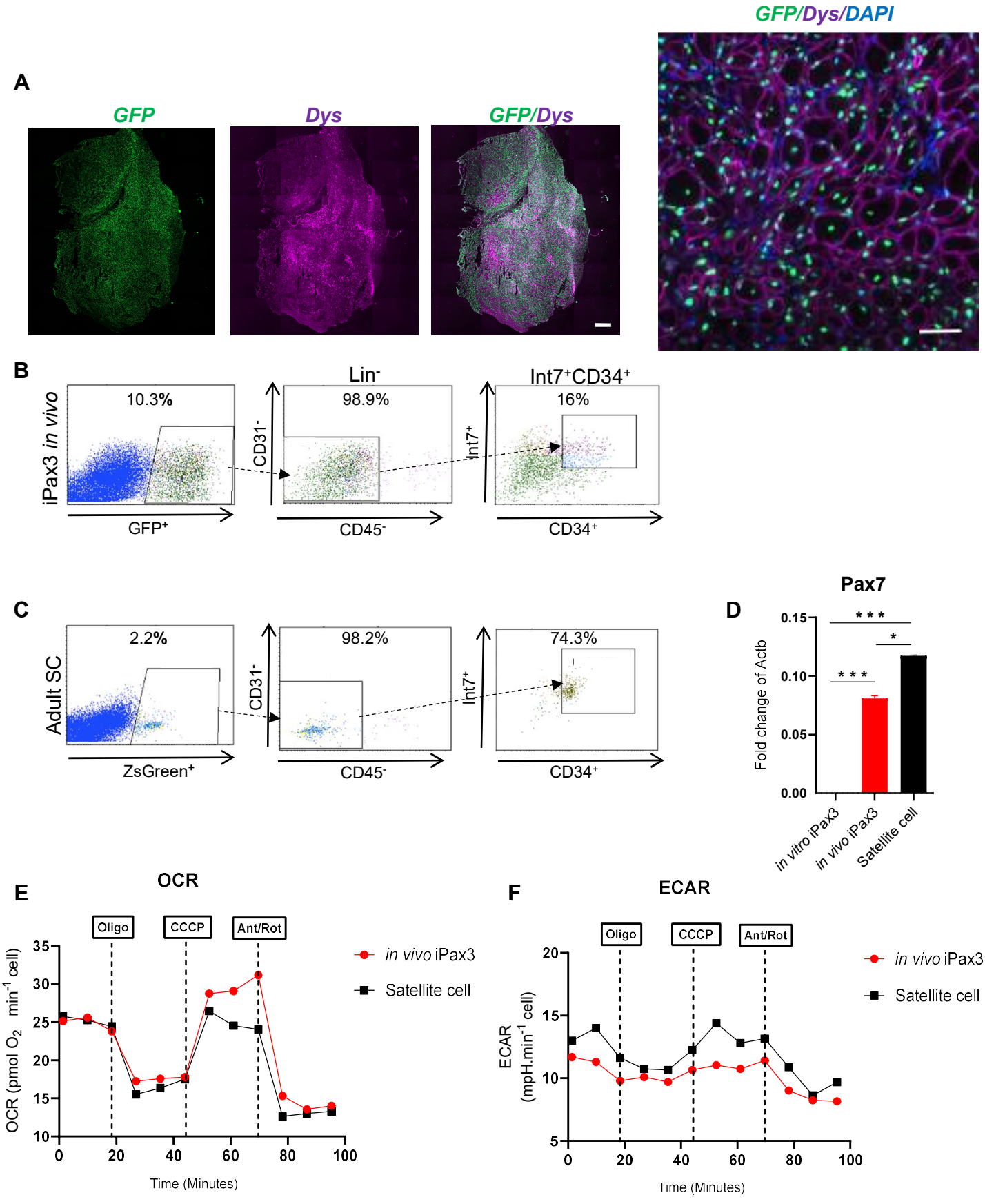
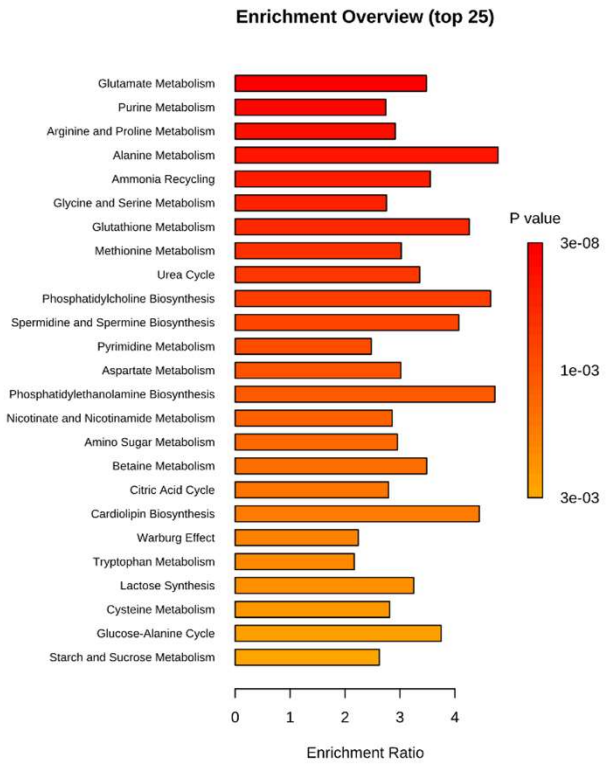
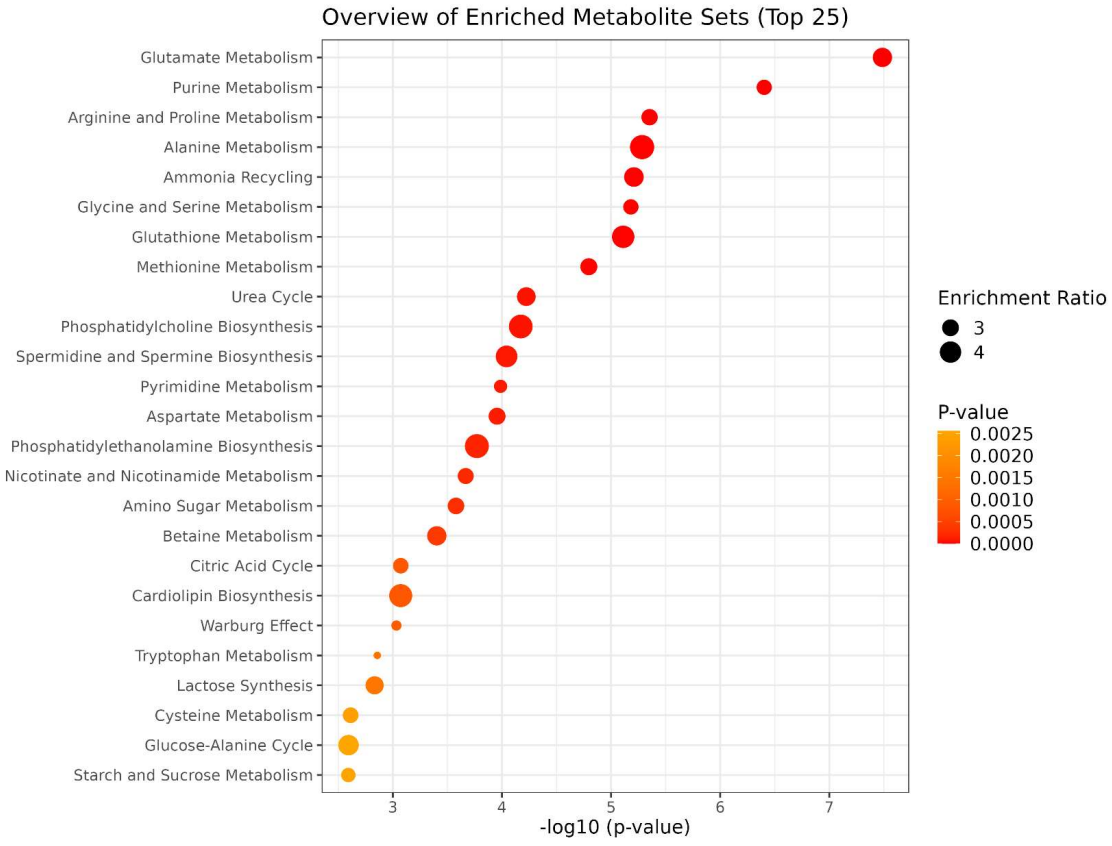

A
GFP
Dys
GFP/Dys
GFP/Dys/DAPI
B
iPax3 in vivo
10.3%
GFP+
Lin-
98.9%
CD31-
CD45-
Int7+CD34+
16%
Int7+
CD34+
C
Adult SC
2.2%
ZsGreen+
98.2%
74.3%
D
Pax7
Fold change of Actb
0.15
0.10
0.05
0.00
* * *
*
in vitro iPax3
in vivo iPax3
Satellite cell
E
OCR
Oligo
CCCP
Ant/Rot
OCR (pmol O2 min-1 cell)
Time (Minutes)
in vivo iPax3
Satellite cell
F
ECAR
ECAR (mpH.min-1 cell)
Time (Minutes)

Figure S3

A


Enrichment Overview (top 25)
Glutamate Metabolism
Purine Metabolism
Arginine and Proline Metabolism
Alanine Metabolism
Ammonia Recycling
Glycine and Serine Metabolism
Glutathione Metabolism
Methionine Metabolism
Urea Cycle
Phosphatidylcholine Biosynthesis
Spermidine and Spermine Biosynthesis
Pyrimidine Metabolism
Aspartate Metabolism
Phosphatidylethanolamine Biosynthesis
Nicotinate and Nicotinamide Metabolism
Amino Sugar Metabolism
Betaine Metabolism
Citric Acid Cycle
Cardiolipin Biosynthesis
Warburg Effect
Tryptophan Metabolism
Lactose Synthesis
Cysteine Metabolism
Glucose-Alanine Cycle
Starch and Sucrose Metabolism
P value
3e-08
1e-03
3e-03
0
1
2
3
4
Enrichment Ratio

B


Overview of Enriched Metabolite Sets (Top 25)
Glutamate Metabolism
Purine Metabolism
Arginine and Proline Metabolism
Alanine Metabolism
Ammonia Recycling
Glycine and Serine Metabolism
Glutathione Metabolism
Methionine Metabolism
Urea Cycle
Phosphatidylcholine Biosynthesis
Spermidine and Spermine Biosynthesis
Pyrimidine Metabolism
Aspartate Metabolism
Phosphatidylethanolamine Biosynthesis
Nicotinate and Nicotinamide Metabolism
Amino Sugar Metabolism
Betaine Metabolism
Citric Acid Cycle
Cardiolipin Biosynthesis
Warburg Effect
Tryptophan Metabolism
Lactose Synthesis
Cysteine Metabolism
Glucose-Alanine Cycle
Starch and Sucrose Metabolism
3
4
5
6
7
-log10 (p-value)
Enrichment Ratio
3
4
P-value
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000