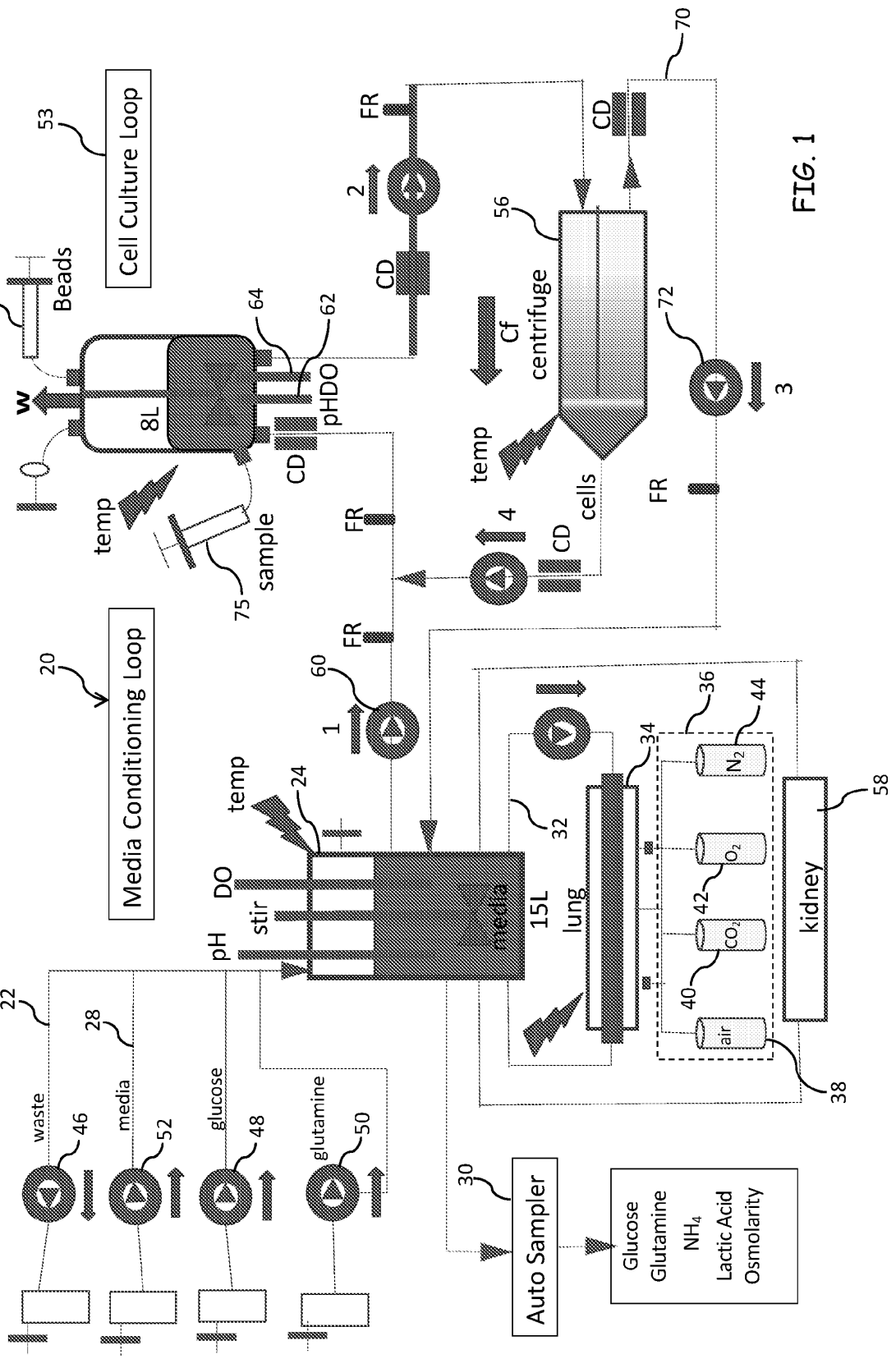

Cell Culture Loop
53
Beads
74
W
8L
64
62
pHDO
CD
temp
sample
75
FR
2
CD
FR
70
CD
56
Cf
centrifuge
temp
cells
72
FR
3
4
CD
FR
Media Conditioning Loop
20
60
1
FR
temp
24
DO
stir
pH
media
15L
32
lung
36
34
44
N_2
O_2
42
CO_2
40
air
38
kidney
58
22
waste
46
28
media
52
glucose
48
glutamine
50
30
Auto Sampler
Glucose
Glutamine
NH_4
Lactic Acid
Osmolarity

FIG. 1