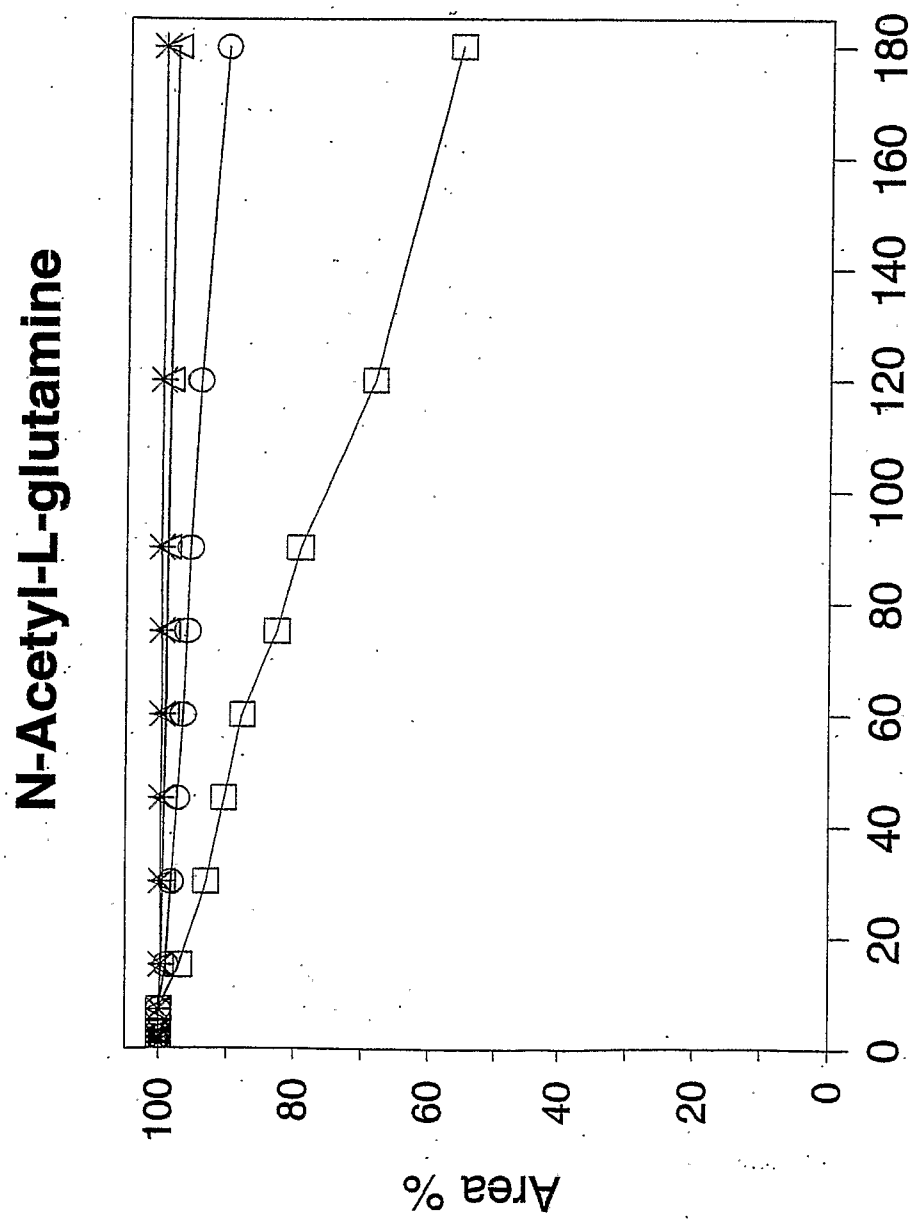


Figure 1: Aqueous stability of N-acetyl-L-glutamine at various pH (ambient temperature, in 1 pH unit increments from pH 2 to 8): (?) pH 2.0; (o) pH 3.0; (△) pH 4.0;? (✳) pH 5.0 to pH 8.0 (all values are the same for pH 5.0 to pH 8.0 samples).

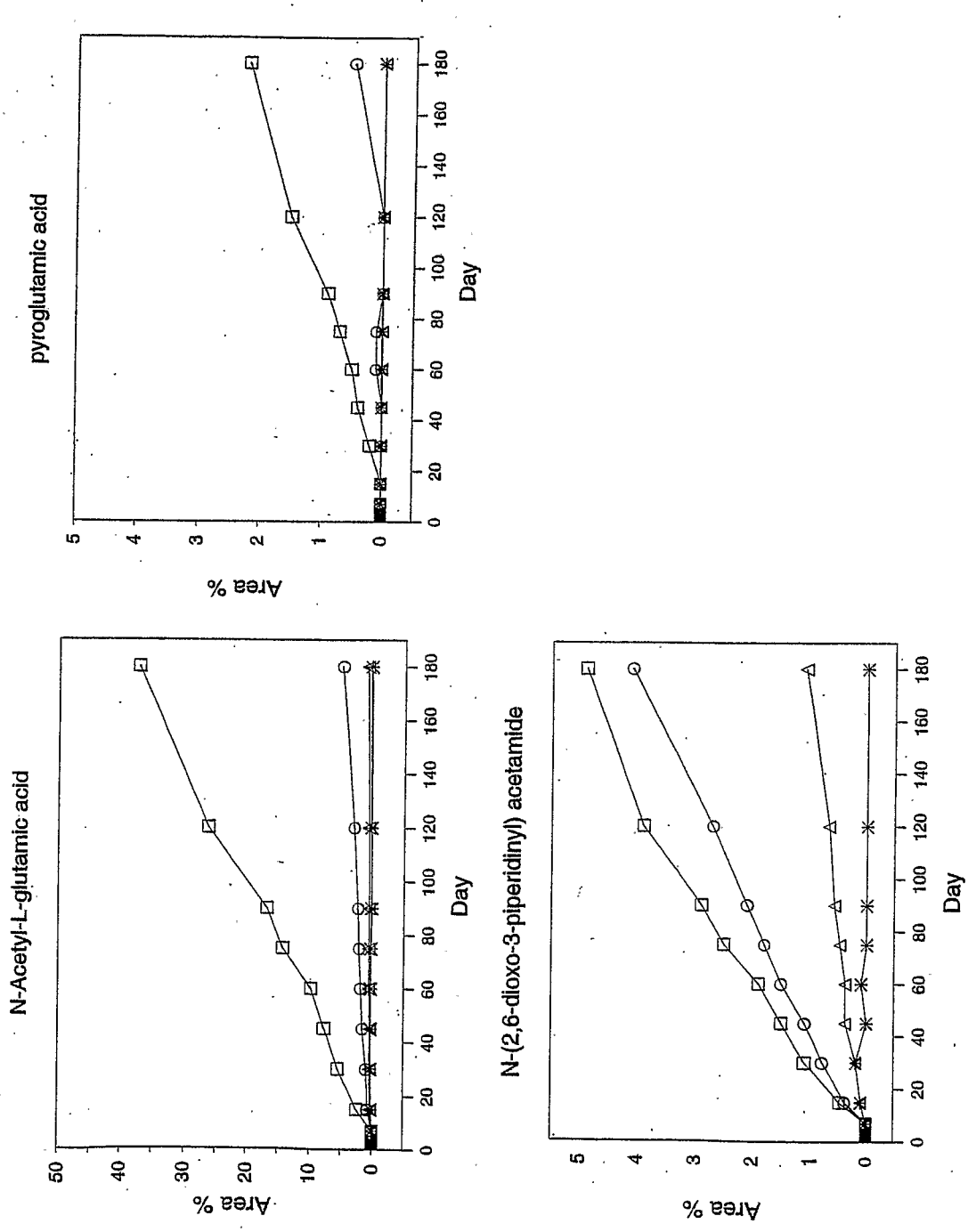
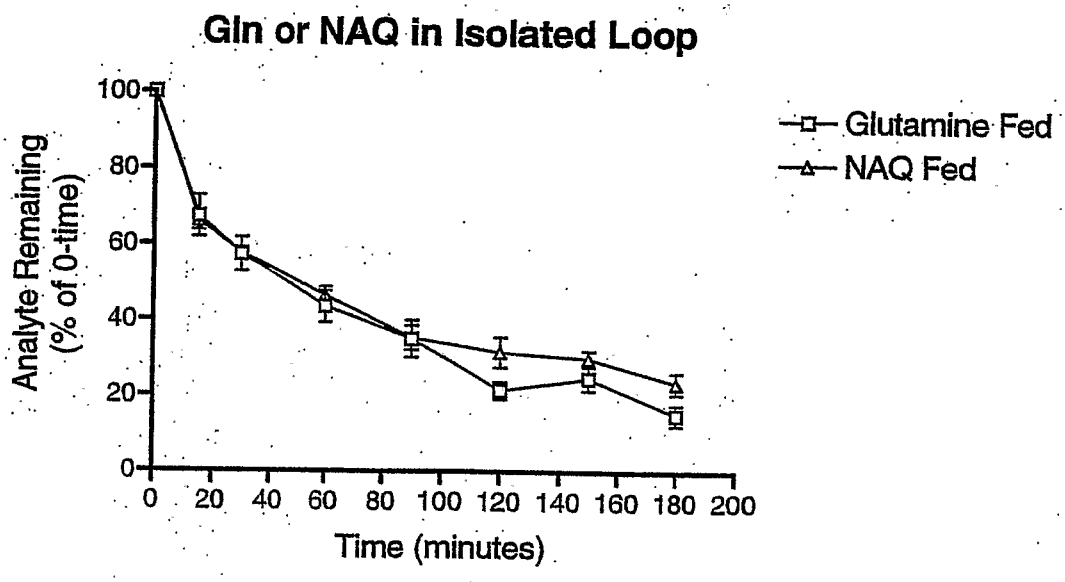
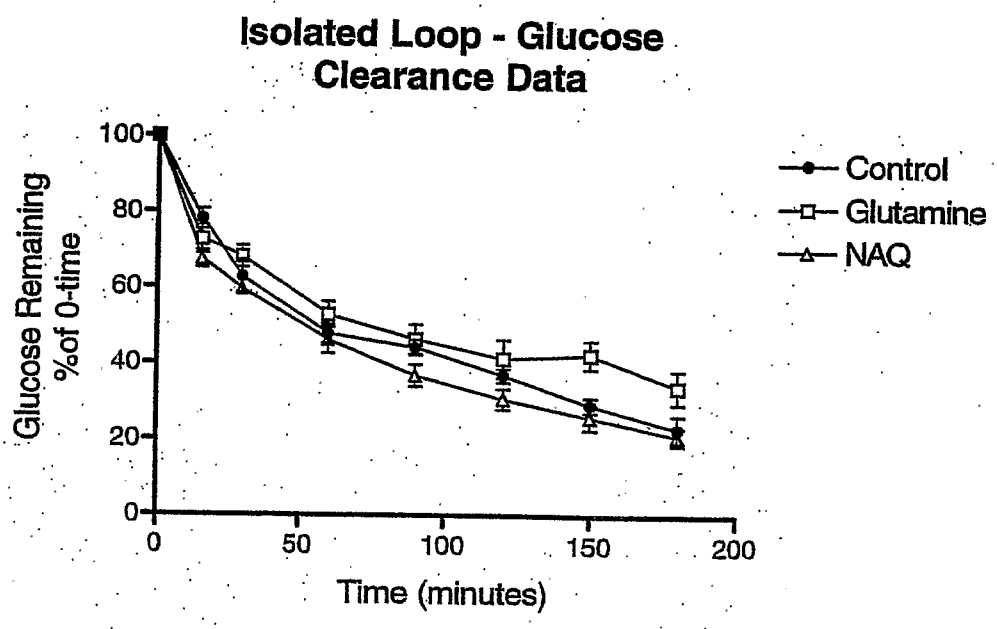


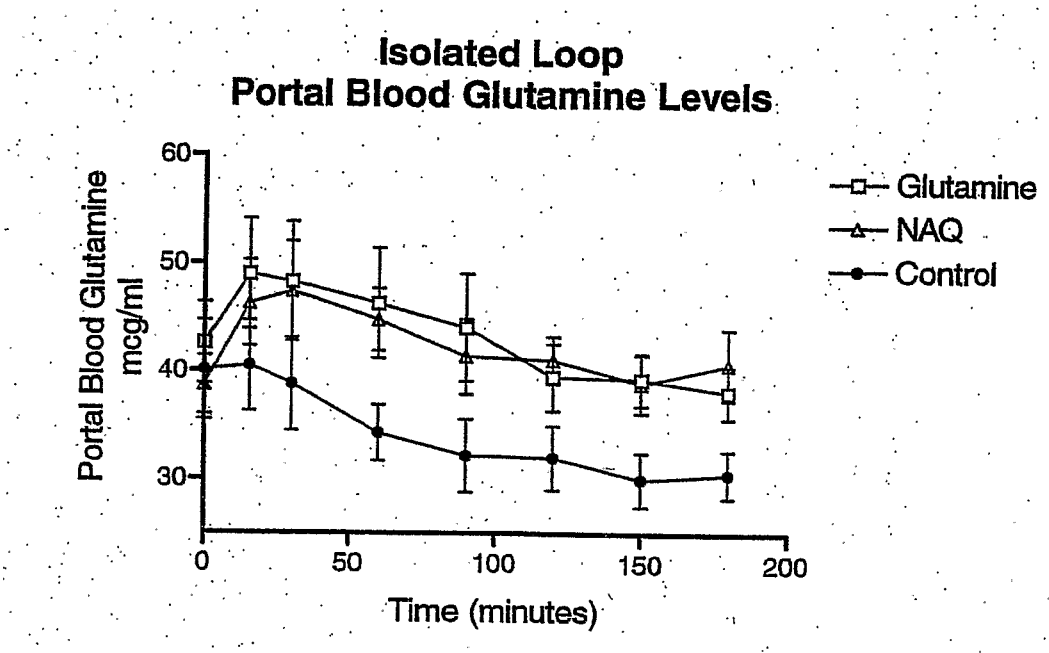
Figure 2: Degradation products of N-acetyl-L-glutamine in aqueous solution at various pH, (ambient temperature, in 1 pH unit increments from pH 2 to 8): (?) pH 2.0; (o) pH 3.0; (Δ) pH 4.0;? (*) pH 5.0 to pH 8.0 (all values are the same for pH 5.0 to pH 8.0 samples).



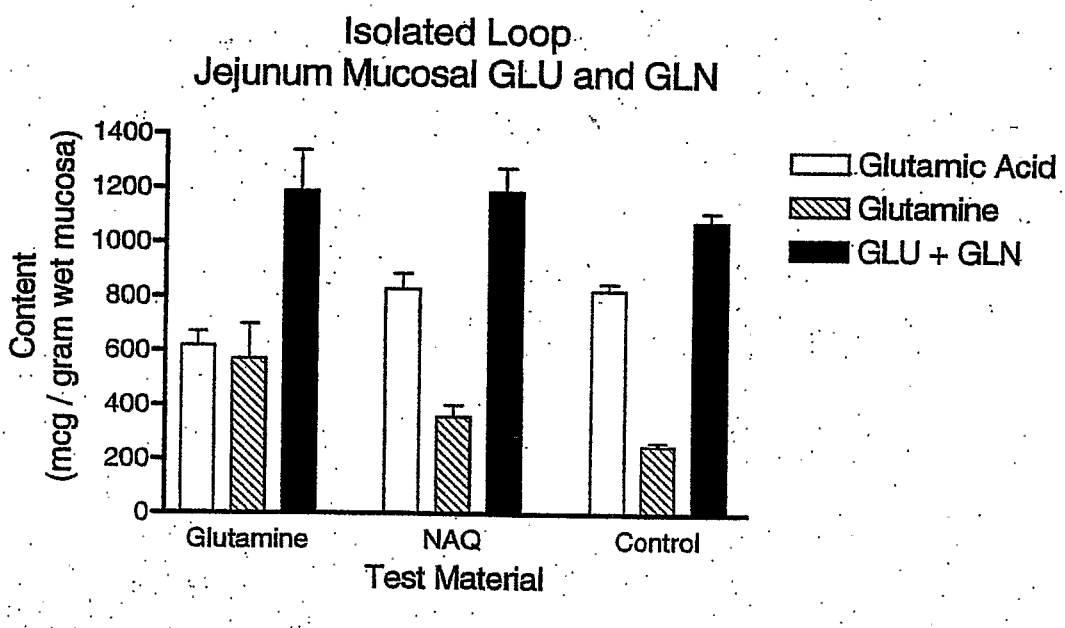
No significant difference between Gln or NAQ - t1/2 ~ 45 minutes.



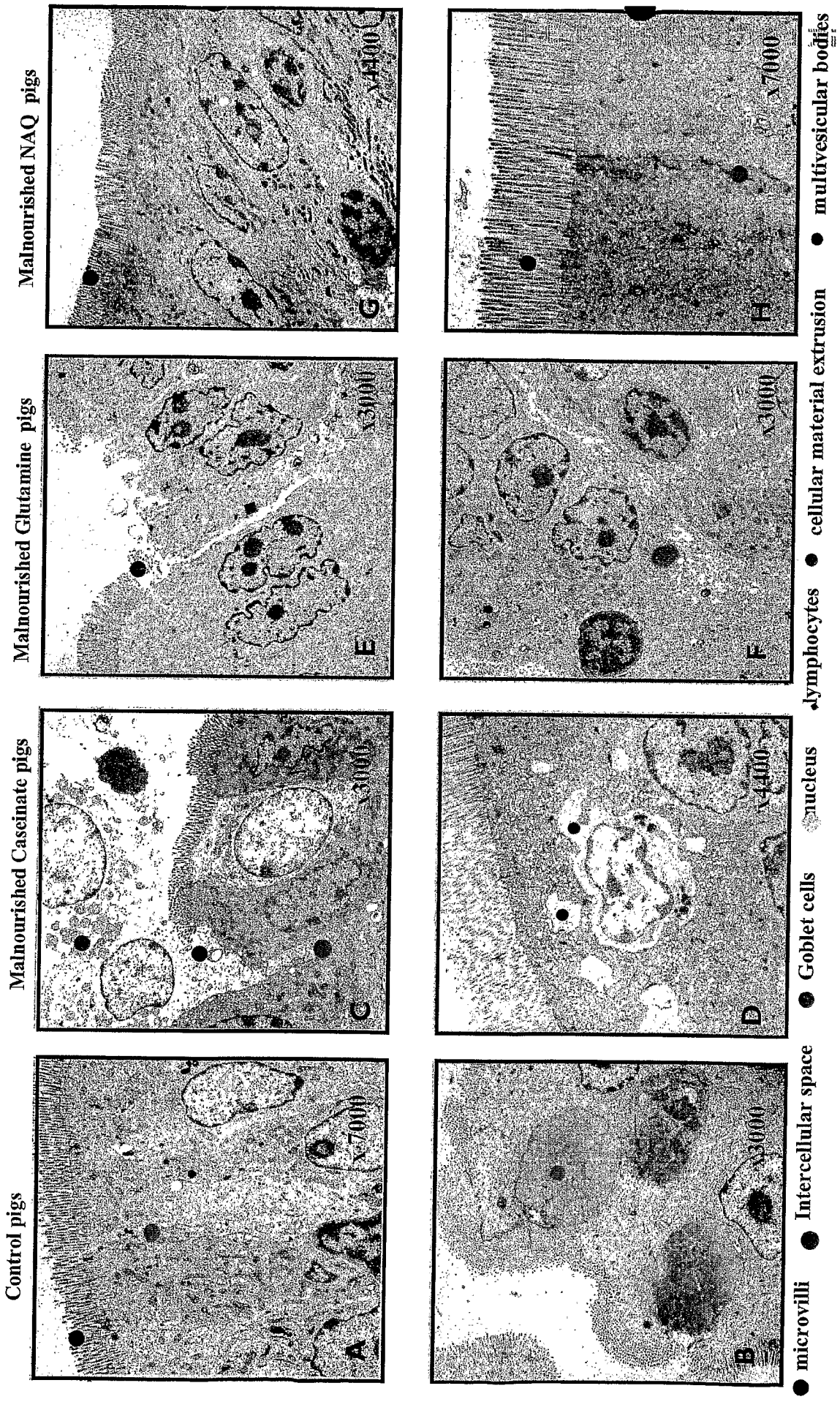
Glucose clearance from isolated intestinal loop. There was no significant difference between groups, and t1/2 is approximately 60 - 90 minutes.

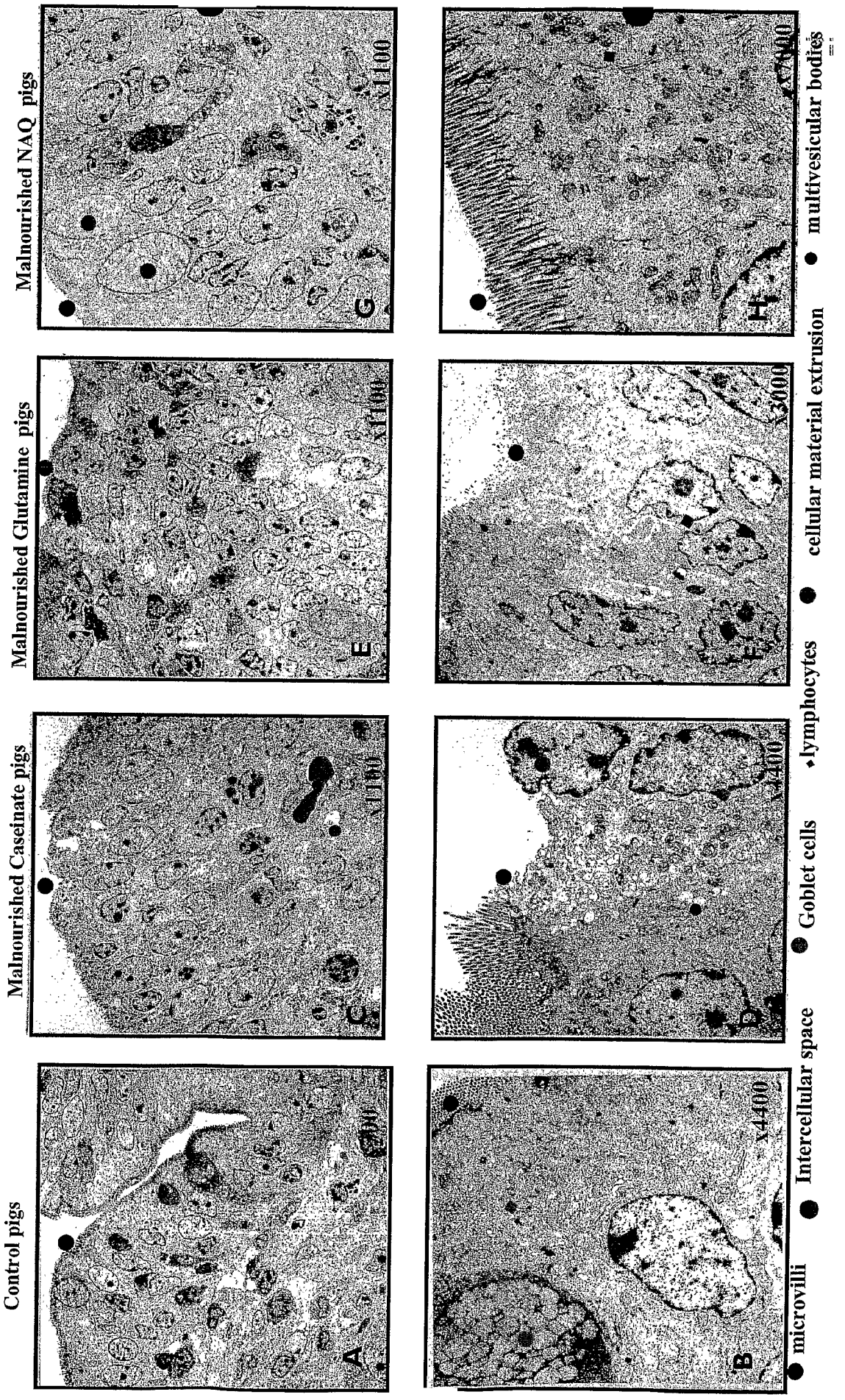


Portal blood glutamine levels are not different whether glutamine or NAQ is placed in the isolated intestinal loop. Both are different from the control (no added glutamine source).

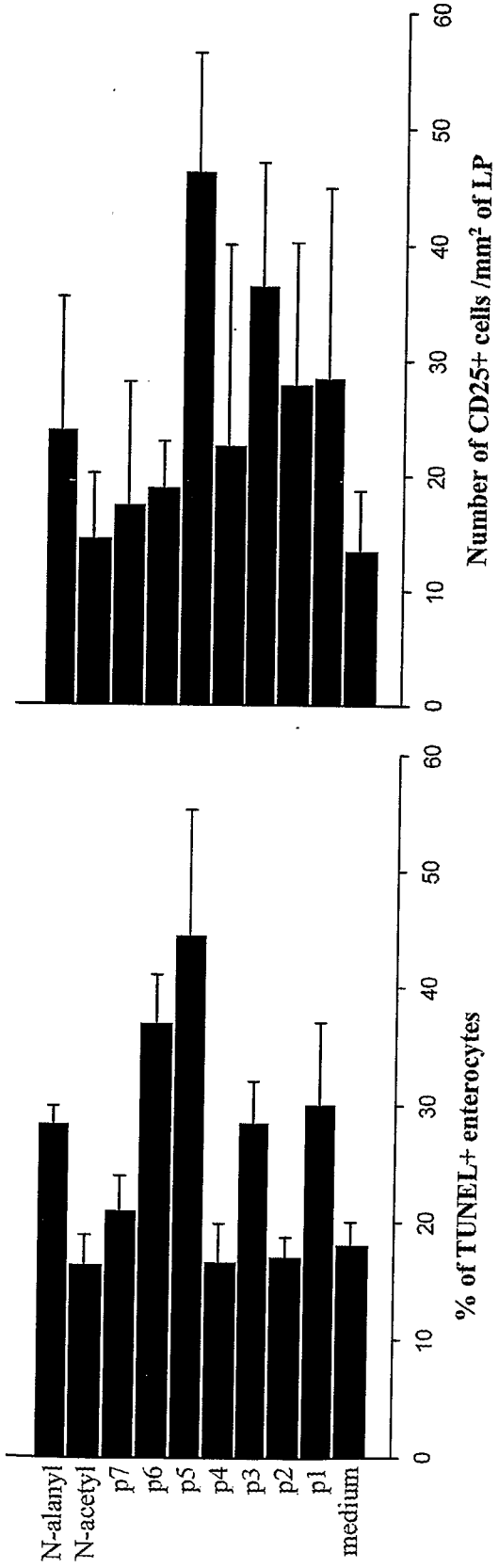


Isolated Loop - Total mucosal glutamine and glutamate analysis. Incubation with NAQ or Gln results in similar retention of GLN+GLU in the mucosa. NAQ does not produce as high a GLN content in the mucosa as GLN, but NAQ does prevent the loss of GLU content observed with GLN. Both GLN and NAQ are identical in supporting a slightly elevated mucosal content of GLN+GLU compared to control.


Control pigs
Malnourished Casinate pigs
Malnourished Glutamine pigs
Malnourished NAQ pigs
A x7000
B x3000
C x3000
D x4400
E x3000
F x3000
G x4400
H x7000
microvilli
Intercellular space
Goblet cells
nucleus
lymphocytes
cellular material extrusion
multivesicular bodies


Control pigs
Malnourished Caseinate pigs
Malnourished Glutamine pigs
Malnourished NAQ pigs
A
B
C
D
E
F
G
H
x1100
x4400
x1100
x3000
x1100
x4400
x1100
x3000
microvilli
Intercellular space
Goblet cells
lymphocytes
cellular material extrusion
multivesicular bodies

Mucosal modifications induced on untreated celiac disease



Pattern of epithelial TUNEL expression

N-acetyl glutamine A

compound 5 B

Pattern of CD25 expression in the sub-epithelial compartment

N-acetyl glutamine A

compound 5 B