E07-06-0547 Uccelletti

Fig.S1 Substrate specificity rescue of NDPase activity by APY-1 expression in a yeast mutant. Total membranes were obtained from *gda1* mutant cells transformed with empty vector (p426, *gray bars*) or the vector carrying APY-1 (p426-APY-1, *black bars*). Nucleotide concentrations were 2 mM in the presence of 2 mM $CaCl_2$. The values are the mean ± S.D. of three independent experiments.

Fig.S2 Nucleotidase activities and catalytic properties of *C. elegans* crude membranes. (A and B) Membrane fractions from *C. elegans* N2 and ire-1strains respectively, grown at 16°C and then treated and not with tunicamycin 5 µg/ml for 6 h, were incubated with nucleotides (2 mM) in the presence of 2 mM $CaCl_2$. Values are means ± S.D. of four independent experiments. (C) pH dependence of UDPase activity of total membrane fractions from N2 worms. (D) Determination of metal cation dependence of UDPase activity of total membrane fractions from N2 worms.

Fig.S3 Effects of *apy-1* (RNAi) inactivation on lifespan and aging in *daf-2* strain. (A) Lifespan analysis of *apy-1* (RNAi by feeding) and *daf-2* mock worms. Survival is plotted against days of adulthood, where 0 is the L4 larvae phase. Error bars represents SD; n=60 for each data point of single experiment. Figure shows the mean of three independent experiments. (B and C) Mean pharyngeal pumping rate and frequency of body bends respectively, of *apy-1 (*RNAi) animals and *daf-2* mock treated animals for the indicated period of time. Error bars, SD; n=60 for each treatment, histogram shows the mean of three different experiments.

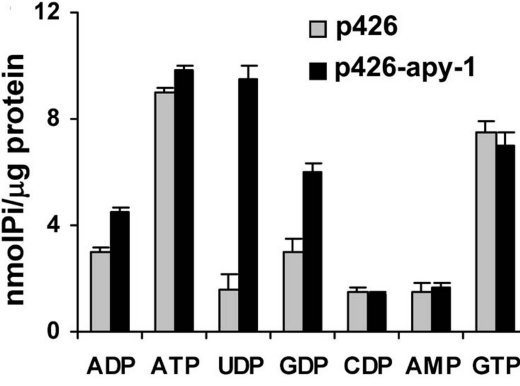
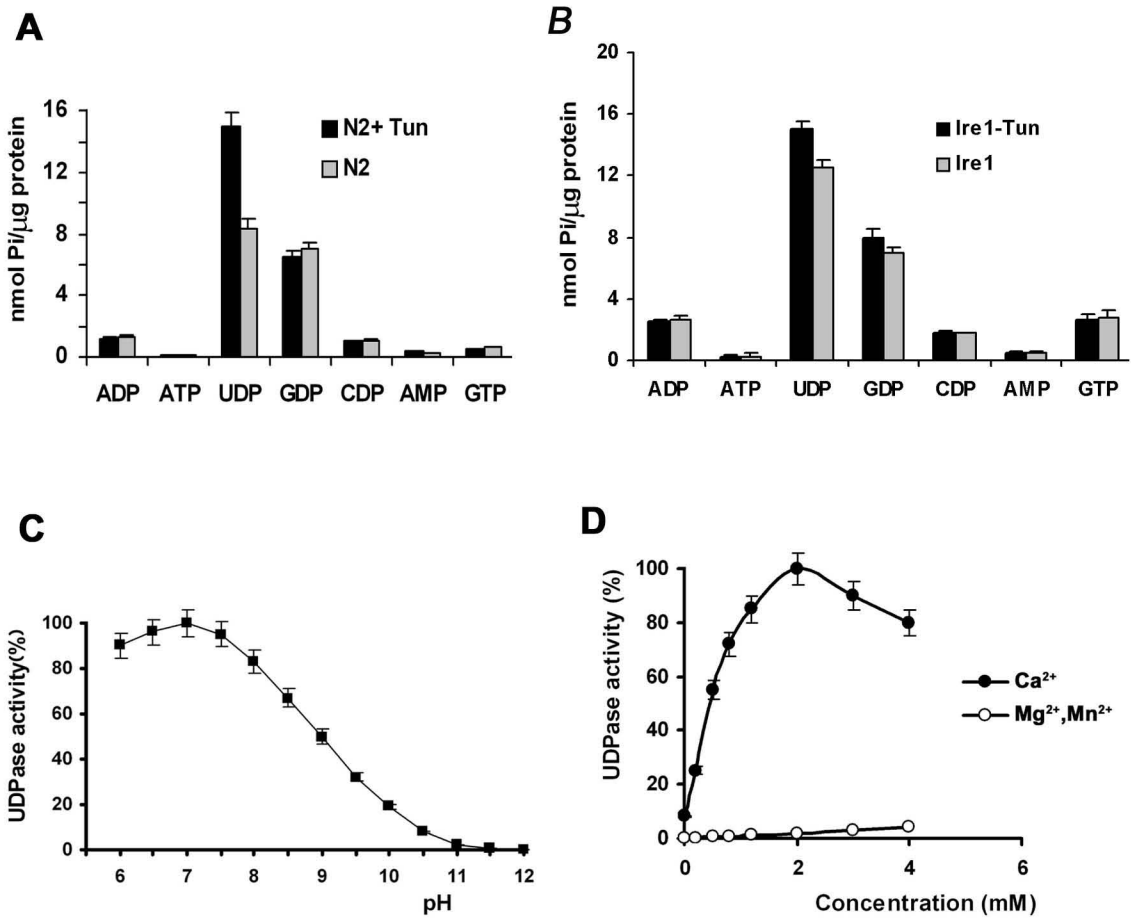
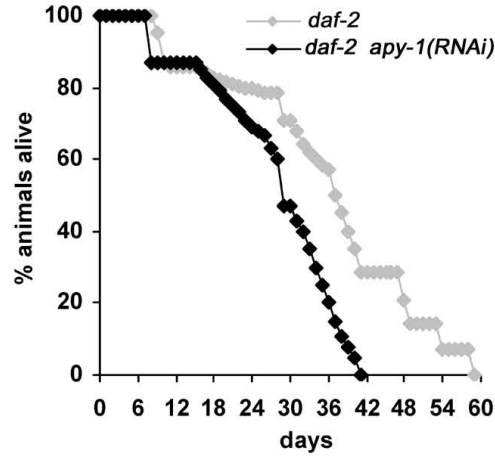

12
8
4
0
nmolPi/μg protein
p426
p426-apy-1
ADP
ATP
UDP
GDP
CDP
AMP
GTP

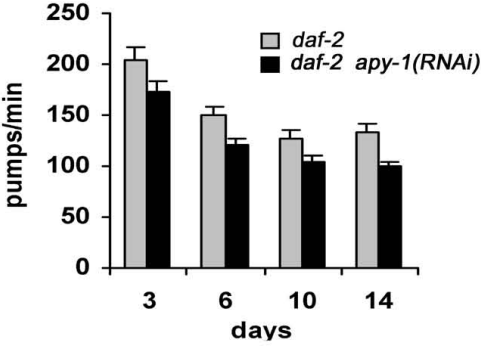
Fig S1


A
nmol Pi/μg protein
16
12
8
4
0
N2+ Tun
N2
ADP
ATP
UDP
GDP
CDP
AMP
GTP
B
nmol Pi/μg protein
20
16
12
8
4
0
Ire1-Tun
Ire1
ADP
ATP
UDP
GDP
CDP
AMP
GTP
C
UDPase activity(%)
100
80
60
40
20
0
6
7
8
9
10
11
12
pH
D
UDPase activity (%)
100
80
60
40
20
0
Ca2+
Mg2+,Mn2+
0
2
4
6
Concentration (mM)

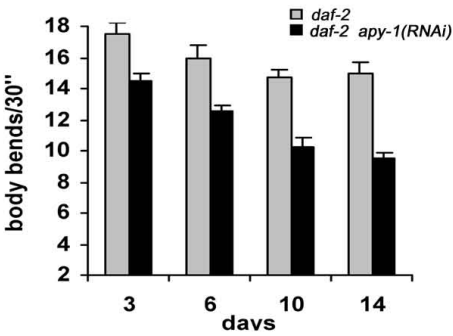
A


daf-2
daf-2 apy-1(RNAi)
% animals alive
100
80
60
40
20
0
0 6 12 18 24 30 36 42 48 54 60
days

B


daf-2
daf-2 apy-1(RNAi)
pumps/min
250
200
150
100
50
0
3 6 10 14
days

C


daf-2
daf-2 apy-1(RNAi)
body bends/30''
18
16
14
12
10
8
6
4
2
3 6 10 14
days