

Figure S1. Growth properties of *NAB3-FRB*, *RPB2-HTB*. **(A)** *NAB3-FRB* protein expression. **(B)** *NAB3-FRB* and control strain grown with or without rapamycin. **(C)** Growth curves of FRB tagged Nrd1 and Nab3 compared to WT. **(D)** Growth curve of Nab3-FRB grown in the presence or absence of rapamycin. Arrows indicate the timing of labelling, irradiation and harvesting.

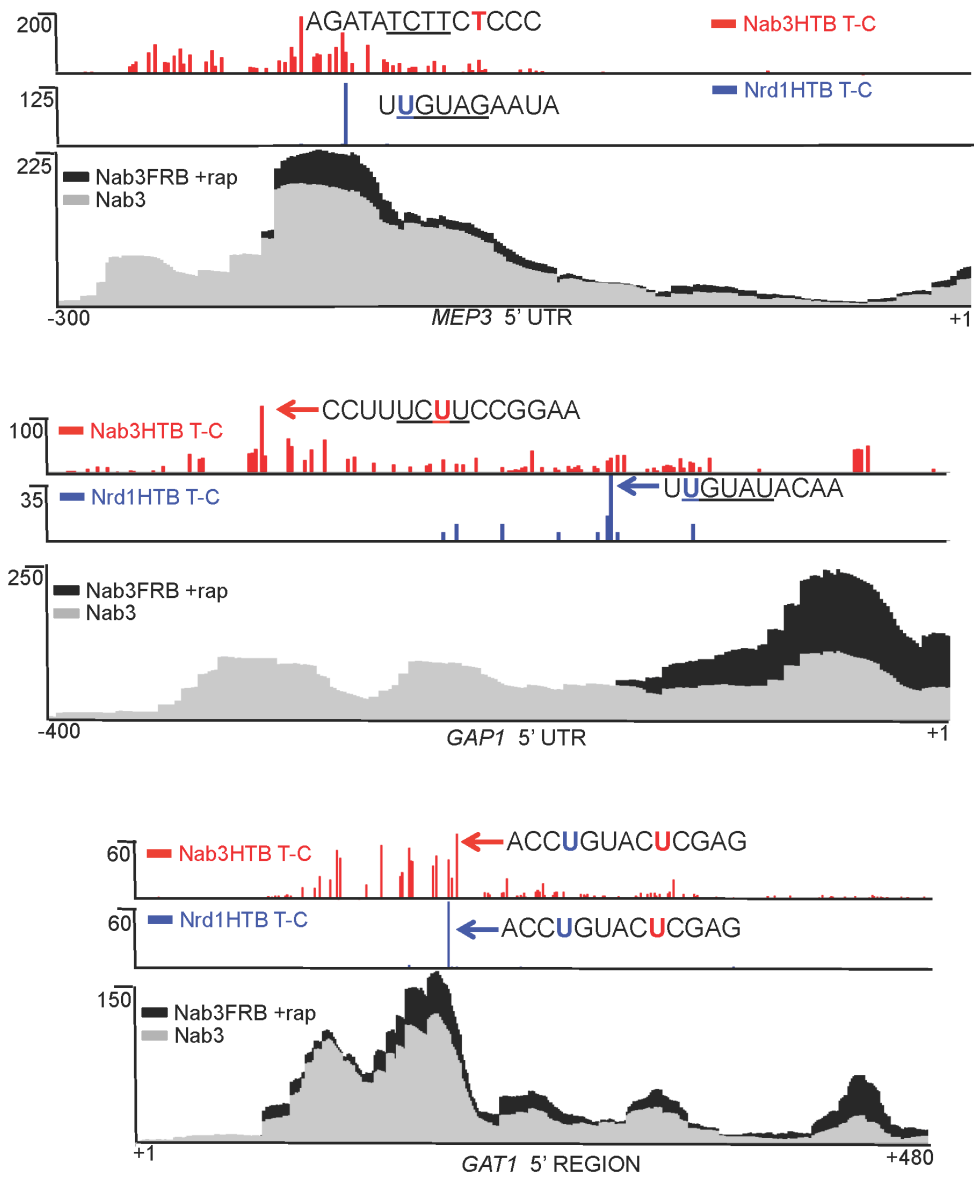


Figure S2. Increased expression of nitrogen catabolite repressed genes. Pol II and Nab3 binding maps showing examples of Nab3 regulated NCR genes.

Gene	41 nt sequence centered on T to C change	reads
MEP3	acaauuugauagauau <u>ucuu</u> ccccuuuccu <u>ucuu</u> guagaa	474
DIP5	aggaaaaaagaacuaaacuc <u>ua</u> aguaaugaagaugccucua	434.5
YGK3	acauguuuaccggauagcuc <u>ug</u> cuaccaguuuaaaacugu	364
DIP5	guagaugcacucgaguau <u>ucuu</u> gggagaacguaacuuguauu	357
MEP3	ua <u>ucuu</u> cuccuuuccu <u>ucuu</u> guagaauaagguugugugc	342.5
NRK1	aucugacauaaaaagauuuc <u>ug</u> aaguuauucgucagauaaga	310
DIP5	cuuggagaacguaacuugua <u>uug</u> agcuagagugcuggauaa	297.5
GLT1	uacuacgcagacggauacuc <u>uc</u> aguugc <u>ucuuucuu</u> ccccu	283.5
GAP1	guuggggcaacacaccuu <u>ucuu</u> ccggaaauucgcucuggaug	244.5
MEP3	ugcagcacggacuucccuc <u>uc</u> cuug <u>ucuu</u> aucgca <u>ucuu</u> a	242.5
GLT1	aacacaccaaacuaaucguc <u>uc</u> ccacaucauaggaagauagg	239
GLT1	auacucucaguugc <u>ucuuucuu</u> ccccu <u>ucuu</u> uuagcuaau	237.5
YGK3	auagucugugugaccuau <u>uc</u> guuuacguaaagau <u>ucuu</u> g	205.5
MEP2	gcucacgcaucgacgaauac <u>ua</u> agcggcgugaagaccucgu	193
GDH2	caaaaguuauacugucgaca <u>uca</u> acacugacaagcguuuac	178
SLX9	cguagcgaacaauaggcauuc <u>ug</u> gacgagaguuauagacauag	168
MEP2	cgugaagaccucugugccuu <u>uca</u> auagaaguauucaguacaa	167
YGK3	uacguaaagau <u>ucuu</u> guc <u>uc</u> aaaugcaagcuuaggguu	165.5
GDH2	uguuuagucagaa <u>ucuu</u> gu <u>u</u> auauaagaacaaccgguuuc	164.5
AVT1	gcucugagguucacuaua <u>uc</u> cauuccauugaacagaggu	163.5
MEP1	aacugcaguacggau <u>ucuu</u> a <u>u</u> acuguaaaacuauggagag	158
PRB1	gacgaugaugaggagccauc <u>ug</u> acucugaagauaaagaaca	157.5
GDH2	cuguuuagucagaa <u>ucuu</u> gu <u>u</u> auauaagaacaaccgguuu	152.5
GLN1	ugauucuaauaauacgaa <u>uc</u> aggcuugguugguucguag	151
GLN1	gg <u>ugua</u> aguaaguaggcuuga <u>ua</u> augaaauaaagauagacucc	148
UGA1	guaaaaauaagugaguaa <u>uc</u> gcggga <u>ugua</u> augauuuua	147
AVT1	uacguauucuguaa <u>uc</u> gaa <u>u</u> uccgagacgcaaaugccuga	144.5
YLR257W	cacuuauuuuuuagagguuc <u>uc</u> ua <u>u</u> ucgucagugauagaaa	142
AGP1	ugauggucugcccacaacaa <u>u</u> guagaacaaguuuuuuuangu	141
DAL3	aaucgc <u>ucuu</u> gaugcuua <u>ucuu</u> guagggcaaaaa <u>ucuu</u> ug	140.5
AVT1	uuacguagacuuacguauuc <u>ug</u> uaa <u>u</u> acugauuccgagacg	138.5
YLR257W	gguc <u>ucuu</u> aguauuugcguc <u>ug</u> aaaagau <u>ucuu</u> agcucuguc	135.5
GAT1	aagaaaucugggaccugua <u>uc</u> gagcgcccagaaaauuuug	135
UGA4	gaauacggcuuac <u>ucuu</u> gaa <u>ua</u> acaaauugcauauuuuaa	134.5
CAN1	<u>ucuu</u> cagac <u>ucuu</u> aacucc <u>ugua</u> aaaaacaaaaaaaaaaaa	134.5
MEP1	cauaacugcaguacggau <u>ucuu</u> auacuguaagaaacuaugga	133
AGP1	aaugucgucgucgaagucuc <u>ua</u> acgaacugaaagacuuga	131.5
PUT1	caaguccguagcagc <u>ucuu</u> <u>ucuu</u> uug <u>ucuu</u> uuauauauca	127.5
UGA4	auagcgaauacggcuuac <u>ucuu</u> gaa <u>ua</u> acaaauugcauauau	126
CAN1	agu <u>ucuu</u> cagac <u>ucuu</u> aac <u>uc</u> cu <u>ugua</u> aaaaacaaaaaaaaaaa	125.5
GAP1	aacacaccuu <u>ucuu</u> ccggaa <u>u</u> ucgcucuggaugagacauau	124
SLX9	gagaguuauagacauagaau <u>ug</u> auccaagggccuuucugca	123.5
LAP4	auagagccgaucaagaa <u>ucuu</u> agugcaauuguagaaaccu	121
DAL7	aagcuuggacaacacugcuc <u>ua</u> acgcagacaucgacacga	119.5
GAP1	cuuccggaaucgcucugga <u>ug</u> agacauauaaagaugaagg	119.5
ARG4	gucagacggcacucaaaa <u>uc</u> auggggugggagauucacug	116
AGP1	gugcuuug <u>ucuu</u> ugaugguc <u>ug</u> cccacaacaanguagaaca	113.5
MEP2	auugcucacgcaucgacgaa <u>ua</u> cuuagcggcgugaagacc	112.5

MEP1	gau <u>ucuu</u> auacuguaaaa <u>u</u> auggagagucgaacuacagg	110
GAT1	cacgaacagagucccgaacc <u>ucg</u> accggacuugaauuuua	109
YLR257W	gaaaaga <u>ucuu</u> agcucug <u>ucuu</u> ugacucuaucacuuaauuuu	108
SLX9	aucugauccaagggccuuuc <u>ug</u> caccaaccuaaagaaacua	104.5
GAT1	aaccucgaccggacuuga <u>uu</u> uaaacaagaaucuggga	103.5
GLN1	ucaaauuuuacaaaaauauc <u>u</u> agaacuggaccaaagaggua	101
DAL3	cg <u>ucuu</u> gaugcuua <u>ucuu</u> g <u>u</u> agggcaaaaa <u>ucuu</u> ugaag	98
UGA1	guauaagcaagcgccagauc <u>u</u> guuuac <u>u</u> guaaaauuaagug	98
NRK1	uuagcaccugaguauauauc <u>u</u> gacauaaaaagauuucugaa	97
ECM38	acuucucaauuuauaa <u>ucuu</u> ccguaaaguucgaucguga	96.5
DAL3	<u>ucuu</u> guagggcaaaaa <u>ucuu</u> ugaagcaagauaugguga	93.5
PUT1	gcugggaaccgaacacaaac <u>ucc</u> acaaguccguagcagcuc	92
LAP4	augcuaacugagagccauc <u>u</u> aaaaauaaccaaaucgcca	89.5
CAN1	uucagagu <u>ucuu</u> cagacu <u>ucuu</u> aacucc <u>u</u> guaaaaaacaaaa	88
NPR2	ggaacugggaguaaucguauc <u>ucg</u> gaaauacauagaggugcg	88
MIG2	ucacgcuaagacuauugacc <u>ucg</u> gagaacaaacaaaauuaaa	87.5
UGA1	gugauugggauaugauuuguc <u>ucc</u> aguaguauaagcaagcgc	87
AAH1	cuugcauuuggaagguacuc <u>u</u> agaaccugaccuauuguucc	87
PUT1	ccgaacacaaacuccacaag <u>ucc</u> guagcagc <u>ucuuucuuu</u>	84
NRK1	guuaucgucagauaagaaga <u>ugg</u> agucaaaa <u>u</u> guaaacaa	84
BAT2	ucccucucugacacc <u>ucuu</u> g <u>u</u> uaucauucuguaaguccga	83.5
DAL7	ccuuccaaaacuacuguaagc <u>ug</u> auuuuuuacaaaagauc	80.5
DAL7	auaggcacgguaaagagc <u>u</u> gaacaauuggugaagauaagc	79.5
LAP4	aucaguaa <u>ucuu</u> agugcaau <u>u</u> guagaaaccugcacaaccaa	79.5
GUD1	uuacuauaaauaccauugauc <u>u</u> caaguccacuaagc <u>ucuu</u> gg	78.5
OPT1	uauggacaaucaucggaagc <u>ug</u> ugua <u>ucuu</u> gguaaaaagu	76.5
GUD1	uagaucacgauaguagcuua <u>uc</u> accagaggauucacggug	74.5
UGA4	uagcgaauacggcuuac <u>ucuu</u> gaauaacaaaugcauauua	74.5
MIG2	aaauaaguuuuaacucacgc <u>u</u> aagacuauugaccucgagaa	74.5
PRB1	aaacaaacuaaacuaauuc <u>u</u> aacaagcaagauagaaguua	73
MIG2	uguguaagcuua <u>ucuu</u> aacuc <u>u</u> caauuaaguuuuaacucacg	69.5
ARG4	gcaaacauugcagacggc <u>uc</u> aaaaacuauggggugggag	68.5
DAL80	aaaccgauccgggcuuauc <u>ucg</u> cugcauugggcggcauc	67
OPT1	cgacuauauauggacaauca <u>ucg</u> gaagcugugua <u>ucuu</u> gg	66.5
OPT1	cugcaagggcagucgauggg <u>uc</u> u <u>u</u> gaaacgccuagcaauc	66
DAL80	uuguggcggcaucccuggac <u>u</u> gaaucagcaaguguugcuu	66
PRB1	ucggugcccuagggagcauc <u>uc</u> ugcugcuuuggucauccca	65.5
ARG4	cagacggcacucaaaaacua <u>u</u> ggggugggagauucacuggu	65
GUD1	guuuagaucacgauaguagc <u>u</u> uauaccagaggauucacg	64
ECM38	cuuccugaugcacaguu <u>ucuu</u> aaauaauagaauaaaaagc	62.5
BAT2	cucugacacc <u>ucuu</u> guuauc <u>u</u> aaucuguaaguccgac <u>ucuu</u>	61.5
PUT2	cuuacugagggcuuccuuga <u>ug</u> aaauucaaaag <u>ucuu</u> cuu	60
DAL80	uuuc <u>ucuu</u> ggguuu <u>ucuu</u> uc <u>u</u> gagacaguaauuuuugua	60
CPS1	cagaaca <u>ucuu</u> cuuguuauc <u>uc</u> agccucgccaccuuaucu	57
ECM38	uguugcacaguu <u>ucuu</u> aaa <u>u</u> aaugaauaaaaagcuaacg	57
GDH3	cuggaaauggcucagaauuc <u>u</u> caaaaaguaacuuggacugc	56
PUT2	cuuaaaagacugggacuua <u>uc</u> gagggcuuccuugaugaaau	53
BAT2	cccucucugacacc <u>ucuu</u> gu <u>u</u> aucuaauc <u>u</u> gaaagauccgac	52

Table S1. DNA sequences from Nab3 cross-linked sites used to determine binding motifs.

Nab3 Only	Nrd1 Only	Both
BAG7	ARO4	AGP3
DAK2	BIO5	ATG19
DAL1	BUD9	CRF1
FLO5	CTS1	DAL80
MEP3	DIP5	DSE4
MET13	EGT2	DUR1,2
MET3	HRP1	FRE4
MET6	OPT1	GAP1
NRK1	PBI1	GLT1
OLE1	PCL9	HEM25
OPT2	PRY3	HMS1
PHD1	SCW11	IMD2
RGT1	SEN1	IMD3
SAM2	SET6	IZH4
STE23	SVL3	MEP2
TOS2	TIR4	MKK2
YCR101C	YDL183C	MTO1
YDR124W	YHL026C	NRD1
YGK3	YKL183C-A	PTR2
YJL213W	YKR015C	REF2
YLR053C		SPO23
YNR066C		SUL2
		TDA4
		UGA4
		URA10
		URA8

Table S2. List of genes upregulated in Nab3 nuclear depletion only, Nrd1 nuclear depletion only, and in both. The genes selected were upregulated in all cases by at least 2 fold with p values < 0.05. This list was used to generate the venn-diagram in Figure 3B.