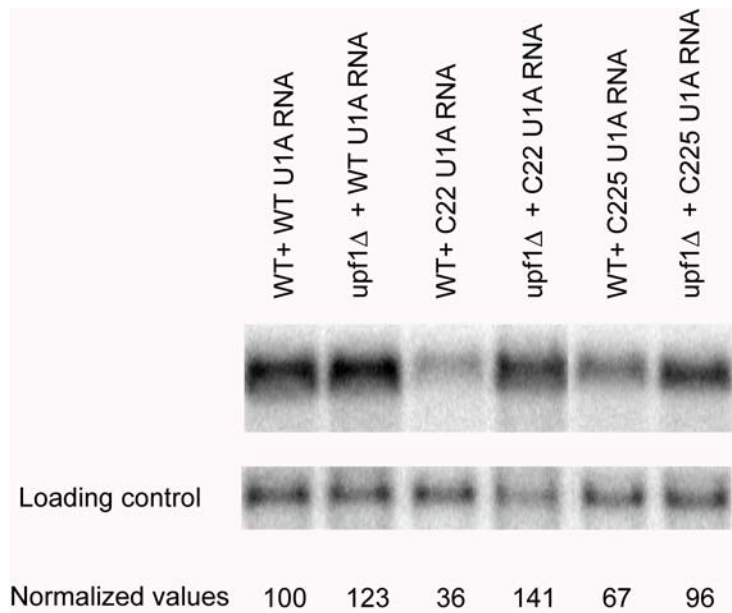


## Supplemental Data

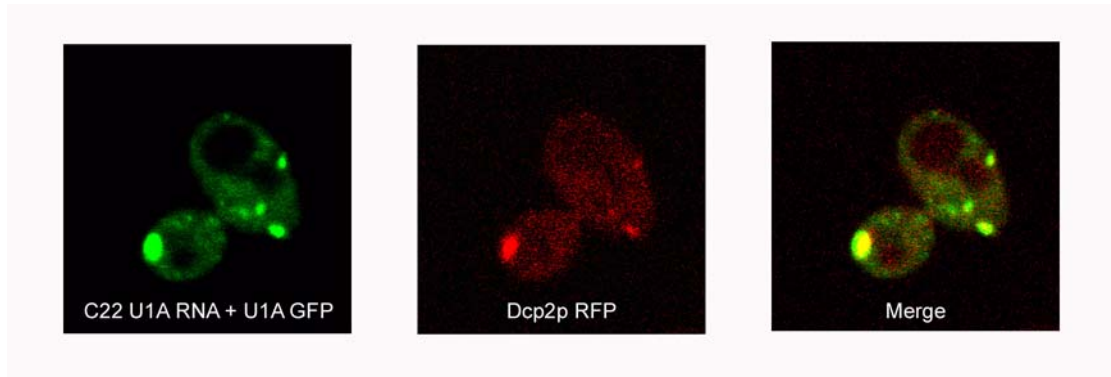
### Targeting of Aberrant mRNAs to Cytoplasmic Processing Bodies

Ujwal Sheth and Roy Parker



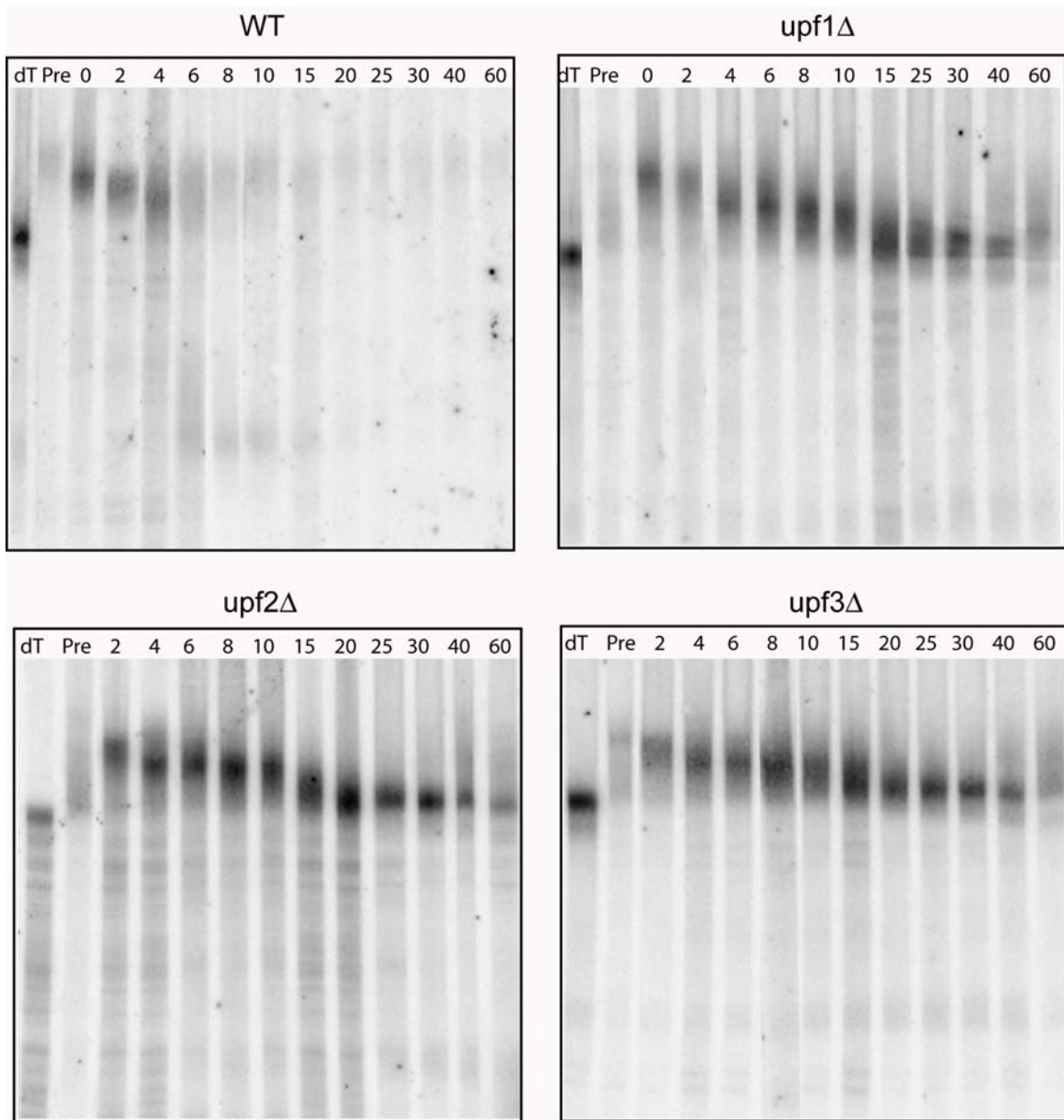
#### Figure S1. Northern Analysis of U1A Reporter mRNAs

Steady-state level comparison of PGK1 U1A mRNA (WT, C22 and C225) in wild-type and upf1 $\Delta$  strains respectively. The normalized values of PGK1 reporter mRNA are shown at the bottom of the gel. The quantification is done by normalizing to the levels of endogenous PGK1 mRNA as shown in the loading control.



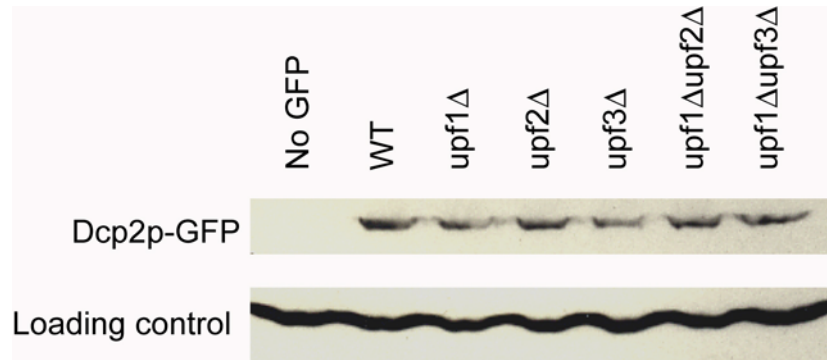
**Figure S2. Colocalization of PTC-Containing mRNA with Dcp2p-GFP**

Left, full length reporter mRNA with a premature stop codon at position 22; middle, Dcp2pRFP; and right, the merge generated by Adobe Photoshop.



**Figure S3. Transcriptional Pulse-Chase of PGK1C142**

Top; WT and *upf1*Δ, bottom; *upf2*Δ, and *upf3*Δ strains. Plasmid pRP1076 (Cao and Parker, 2003) was introduced into the strains by transformation and transcriptional pulse chase performed as previously described (Decker and Parker, 1993)



**Figure S4. Western Analysis of Dcp2p-GFP**

The levels of Dcp2p-GFP were compared in all strains by western analysis using antibodies to GFP (Covance). Equal amounts of protein were loaded and a nonspecific band was used as a loading control.

**Table S1. Yeast Strains Used/Generated in This Study**

<b>Strain</b>	<b>Genotype</b>	<b>Source</b>
yRP840	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG /MFA2pG	(Hatfield et al., 1996a)
yRP841	Mat $\alpha$ leu2, lys2, trp1, ura3-52, cup1::LEU2/PGK1pG/ MFA2pG	(Hatfield et al., 1996b)
yRP1212	Mata lys2, leu2, trp1, his4, ura3-52, cup1 $\Delta$ ::URA3, upf1 $\Delta$ ::URA3	(Muhlrad and Parker, 1999b)
yRP1305	Mata leu2, lys2, his4, trp1, ura3-52, cup1 $\Delta$ ::URA3, upf2 $\Delta$ ::NEO	(Muhlrad and Parker, 1999a)
yRP1306	Mata lys2, leu2, his4, trp1, ura3-52, cup1 $\Delta$ ::URA3, upf3 $\Delta$ ::NEO	(Muhlrad and Parker, 1999a)
yRP1674	Mata his3, leu2, met15, ura3	Resgen Genetics
yRP1724	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG/ MFA2pG, DHH1-GFP (NEO)	(Sheth and Parker, 2003)
yRP1727	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG/MFA2pG, DCP2-GFP (NEO)	(Sheth and Parker, 2003)
yRP1729	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG/ MFA2pG, LSM1-GFP (NEO)	(Sheth and Parker, 2003)
yRP1736	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG/ MFA2pG, dcp1::URA3, DHH1::GFP(NEO)	(Sheth and Parker, 2003)
yRP1739	Mata leu2, lys2-201, trp1, ura3-52, cup1::LEU2/PGK1pG/ MFA2pG, lsm1::TRP1, DHH1::GFP(NEO)	(Sheth and Parker, 2003)
yRP1834	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG/ MFA2pG, UPF1-GFP (NEO)	This study
yRP1836	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG/ MFA2pG, UPF2-GFP (NEO)	This study
yRP1838	Mata leu2, trp1, ura3-52, his4, cup1::LEU2/PGK1pG/ MFA2pG, UPF3-GFP (NEO)	This study
yRP1840	Mata leu2, trp1, his4, cup1::LEU2/PGK1pG/MFA2pG, dcp1 $\Delta$ :: URA3, UPF1-GFP (NEO)	This study

<b>Strain</b>	<b>Genotype</b>	<b>Source</b>
yRP1842	Mata leu2, cup1::LEU2/PGK1pG/MFA2pG, dcp1Δ:: URA3, UPF2-GFP (NEO)	This study
yRP1844	Mata leu2, cup1::LEU2/PGK1pG/MFA2pG, dcp1Δ:: URA3, UPF3-GFP (NEO)	This study
yRP1846	Mata leu2, his4, ura3-52, cup1::LEU2/PGK1pG/MFA2pG, lsm1Δ:: TRP1, UPF1-GFP (NEO)	This study
yRP1848	Mata leu2, ura3-52, lys2, cup1::LEU2/PGK1pG/MFA2pG, lsm1Δ:: TRP1, UPF2-GFP (NEO)	This study
yRP1850	Mata leu2, ura3-52, his4, lys2, cup1::LEU2/PGK1pG/MFA2pG, lsm1Δ:: TRP1, UPF3-GFP (NEO)	This study
yRP1852	Mat a leu2, ura3-52, his4, cup1::LEU2/PGK1pG/MFA2pG, dcp2Δ:: TRP1, UPF1-GFP (NEO)	This study
yRP1854	Mata leu2, ura3-52, lys2, cup1::LEU2/PGK1pG/MFA2pG, dcp2Δ:: TRP1, UPF2-GFP (NEO)	This study
yRP1856	Mata leu2, ura3-52, lys2, his4, cup1::LEU2/PGK1pG/MFA2pG dcp2Δ:: TRP1, UPF3-GFP (NEO)	This study
yRP1858	Mata leu2, ura3-52, lys2, his4, trp1, upf1Δ:: URA3, LSM1-GFP (NEO)	This study
yRP1860	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ:: URA3, upf2Δ:: NEO LSM1-GFP (NEO)	This study
yRP1862	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ:: URA3 upf3Δ:: NEO, LSM1-GFP (NEO)	This study
yRP1864	Mata leu2, ura3-52, lys2, his4, trp1, upf1Δ:: URA3, DCP2-GFP (NEO)	This study
yRP1866	Mata leu2, ura3-52, lys2, his4, trp1, upf2Δ::NEO, DCP2-GFP (NEO)	This study
yRP1868	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ::URA3, upf3Δ::NEO, DCP2-GFP (NEO)	This study
yRP1870	Mata leu2, ura3-52, lys2, his4, trp2, cup1Δ::URA3, upf2Δ::NEO, UPF1-GFP (NEO)	This study
yRP1872	Mata leu2, ura3-52, his4, trp1, cup1::LEU2/PGK1pG/MFA2pG, upf3Δ::NEO, UPF1-GFP (NEO)	This study
yRP1874	Mata leu2, ura3-52, lys1, his4, trp1,cup1::LEU2/PGK1pG/MFA2pG, upf1Δ::URA3, UPF2-GFP (NEO)	This study

<b>Strain</b>	<b>Genotype</b>	<b>Source</b>
yRP1876	Mata leu2,ura3-52, his4, trp1 cup1::LEU2/PGK1pG/MFA2pG, upf3Δ::NEO, UPF2-GFP (NEO)	This study
yRP1878	Mata leu2, ura3-52, lys2, his4, trp1, upf1Δ::URA3, UPF3-GFP (NEO)	This study
yRP1880	Mata leu2, ura3-52, lys2, his4, trp1,cup1Δ::URA3, upf2Δ::NEO, UPF3-GFP (NEO)	This study
yRP1898	Mata leu2, ura3-52, lys2, trp1, upf1::URA3, DHH1-GFP (NEO)	This study
yRP1900	Mata leu2, ura3-52, lys2, his4, trp1,cup1Δ::URA3, upf2Δ::NEO, DHH1-GFP (NEO)	This study
yRP1906	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ::URA3, upf1Δ::URA3, upf2Δ::NEO, DCP2-GFP (NEO)	This study
yRP2077	Mata, ura3, his3, leu2, met15, upf1::NEO	Resgen Genetics
yRP2078	Mata, ura3, his3, leu2, met15, upf2::NEO	Resgen Genetics
yRP2079	Mata, ura3, his3, leu2, met15, upf3::NEO	Resgen Genetics
yRP2080	Mata his3, leu2, met15, ura3, Dcp2-GFP (HIS3)	Invitrogen
yRP2081	Mata his3, leu2, met15, ura3, Dhh1-GFP (HIS3)	Invitrogen
yRP2082	Mata his3, leu2, met15, ura3, Pat1-GFP (HIS3)	Invitrogen
yRP2083	Mata his3, leu2, met15, ura3, Lsm1-GFP (HIS3)	Invitrogen
yRP2084	Mata his3, leu2, met15, ura3, Cdc33-GFP (HIS3)	Invitrogen
yRP2085	Mata leu2, ura3-52, lys2,his4, trp1, cup1Δ::URA3, upf1Δ::URA3 upf3Δ::NEO, DCP2-GFP (NEO)	This study
yRP2086	Mata leu2, ura3-52, lys2,his4, trp1, cup1Δ::URA3, upf2Δ::NEO upf3Δ::NEO, DCP2-GFP (NEO)	This study
yRP2087	Mata leu2, ura3-52, lys2,his4, trp1, cup1Δ::URA3, upf1Δ::NEO, Xrn1-GFP (NEO)	This study

<b>Strain</b>	<b>Genotype</b>	<b>Source</b>
yRP2088	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ::URA3, upf2Δ::NEO, Xrn1-GFP (NEO)	This study
yRP2089	Mata ura3-52, his4, trp1, cup1Δ::URA3, upf3Δ::NEO, Xrn1-GFP (NEO)	This study
yRP2090	Mata ura3-52, his4, lys2, trp1, cup1Δ::URA3, upf1::URA3, Dcp1-GFP (NEO)	This study
yRP2091	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ::URA3, upf2Δ::NEO, Dcp1-GFP (NEO)	This study
yRP2092	Mata leu2, ura3-52, his4, trp1, cup1Δ::URA3, upf3Δ::NEO, Dcp1-GFP (NEO)	This study
yRP2095	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ::URA3, upf3Δ::NEO, Dhh1-GFP (NEO)	This study
yRP2096	Mata leu2, ura3-52, lys2, trp1, cup1Δ::URA3, upf1::URA3, Pat1-GFP (NEO)	This study
yRP2097	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ::URA3, upf2Δ::NEO, Pat1-GFP (NEO)	This study
yRP2098	Mata ura3-52, his4, trp1, cup1Δ::URA3, upf3Δ::NEO, Pat1-GFP (NEO)	This study
yRP2099	Mata leu2, ura3-52, lys2, his4, trp1, cup1Δ::URA3, upf2Δ::NEO, upf3Δ::NEO, UPF1-GFP (NEO)	This study
yRP2100	Mata his3, leu2, met15, ura3, Upf1-GFP (HIS3)	Invitrogen
yRP2101	Mata his3, leu2, met15, ura3, Upf2-GFP (HIS3)	Invitrogen
yRP2102	Mata his3, leu2, met15, ura3, Upf3-GFP (HIS3)	Invitrogen
yRP2103	Mata his3, leu2, met15, ura3, upf1Δ::NEO, upf2Δ::NEO	This study
yRP2104	Mata his3, leu2, lys2, met15, ura3, upf1Δ::NEO, upf3Δ::NEO	This study