

Supplementary Table 9: 40 essential genes which are either rapidly diverging or have recently arisen in the fission yeast lineage

Systemic ID	Gene name	Essentiality	Gene function	Gene number relationship Sp Sc	Species distribution
SPAC1006.08	etd1	E	ethanol-hypersensitive mutant protein	1 0	s_p
SPAC12B10.02c		E	sequence orphan	1 0	s_p
SPAC1565.05		E	sequence orphan	1 0	s_p
SPAC1687.18c	ssl3	E	cohesin loading factor Ssl3	1 0	s_p
SPAC1783.03	fta2	E	Sim4 and Mal2 associated (4 and 2 associated) protein 2	1 0	s_p
SPAC17A2.08c		E	sequence orphan	1 0	s_p
SPAC17G8.12		E	sequence orphan	1 0	s_p
SPAC23A1.05		E	sequence orphan	1 0	s_p
SPAC24C9.04		E	sequence orphan	1 0	s_p
SPAC30C2.03		E	sequence orphan	1 0	s_p
SPAC31G5.06		E	sequence orphan	1 0	s_p
SPAC4F10.12	fta1	E	Sim4 and Mal2 associated (4 and 2 associated) protein 1	1 0	s_p
SPAC4H3.11c	ppc89	E	spindle pole body protein Ppc89	1 0	s_p
SPAC644.10		E	sequence orphan	1 0	s_p
SPAC8F11.07c	cdc24	E	DNA replication protein Cdc24	1 0	s_p
SPAPB17E12.09		E	sequence orphan	1 0	s_p
SPAPB1E7.01c		E	sequence orphan	1 0	s_p
SPBC14F5.02		E	sequence orphan	1 0	s_p
SPBC15D4.11c		E	sequence orphan	1 0	s_p
SPBC17D1.01		E	sequence orphan	1 0	s_p
SPBC17G9.13c		E	sequence orphan	1 0	s_p
SPBC18E5.03c	sim4	E	kinetochore protein Sim4	1 0	s_p
SPBC1921.02	rad6	E	DNA repair protein Rad60	1 0	s_p
SPBC19F8.05		E	sequence orphan	1 0	s_p
SPBC1A4.11c		E	sequence orphan	1 0	s_p
SPBC21.01	mis17	E	kinetochore protein Mis17	1 0	s_p
SPBC244.01c	sid4	E	SIN component scaffold protein Sid4	1 0	s_p
SPBC27B12.02		E	sequence orphan	1 0	s_p
SPBC649.05	cut12	E	spindle pole body protein Cut12	1 0	s_p
SPBC947.12	kms2	E	spindle pole body protein Kms2	2 0	s_p
SPBP22H7.03		E	sequence orphan	1 0	s_p
SPBP8B7.01c		E	sequence orphan	1 0	s_p
SPBP8B7.12c	fta3	E	Sim4 and Mal2 associated (4 and 2 associated) protein 3	1 0	s_p
SPCC1235.07	fta7	E	Sim4 and Mal2 associated (4 and 2 associated) protein 7	1 0	s_p
SPCC1393.04	fta4	E	Sim4 and Mal2 associated (4 and 2 associated) protein 4	1 0	s_p
SPCC1672.02c	sap1	E	switch-activating protein Sap1	1 0	s_p
SPCC1682.03c	mug174	E	meiotically upregulated gene Mug174	1 0	s_p
SPCC1739.15	wtf21	E	wtf element Wtf21	15 0	s_p
SPCC2H8.04		E	sequence orphan	1 0	s_p
SPCC777.11		E	sequence orphan	1 0	s_p

E=essential