Table S1: Strain list

| | Name | Background | Specific genotype | source |
|---|---|---|---|---|
| 1 | BY4741 | BY4741 | *MATa, his3Δ0, ura3Δ0, leu2Δ0, met15Δ0* | (Brachmann *et al.* 1998) |
| 2 | BY4742 | BY4742 | *MATalpha, his3Δ0, ura3Δ0, leu2Δ0, lys2Δ0* | (Brachmann *et al.* 1998) |
| 3 | S288c | S288c | MATa (also known as GSY147) | (Kao *et al.* 2010) |
| 4 | RM11a | RM11 | *MATa ho::LoxP* | (Mortimer *et al.* 1994; Torok *et al.* 1996) |
| 5 | AWRI1631 | AWRI1631 | *MATa ho::LoxP* | (Borneman *et al.* 2008) |
| 6 | YJM789K5a | YJM789 | *MATa ho::HisG LYS2* | (Rong-Mullins *et al.* 2017) |
| 7 | BY4741 *med15* | BY4741 | *med15::KanR* | (Tong *et al.* 2001) |
| 8 | BY4741 *med15* | BY4741 | *med15::NatR* | this study |
| 9 | BY4742 *med15* | BY4742 | *med15::NatR* | this study |
| 10 | BY4741 *med2* | BY4741 | *med2::KanR* | (Tong *et al.* 2001) |
| 11 | BY4741 *med3* | BY4741 | *med3::KanR* | (Tong *et al.* 2001) |
| 12 | BY4741 *med5* | BY4741 | *med5::KanR* | (Tong *et al.* 2001) |
| 13 | BY4741 *med16* | BY4741 | *Med16::KanR* | (Tong *et al.* 2001) |
| 14 | BY4741 *med2, med15* | BY4741 | *med15::NatR, med2::KanR* | this study |
| 15 | YJM789K5a *med15Δ* | YJM789 | *MATa, med15::NatR, LYS2* | this study |
| 16 | Hybrid | BY4741xYJM789 | *MATa/MATalpha, HIS3/his3, URA3/ura3,* | this study |

| # | Name | Strain | Genotype | Source |
|---|------|--------|----------|--------|
| | | | *LEU2/leu2, LYS2/lys2, LYS5/lys5* | |
| 17 | $MED15^{YJM789}/\Delta$ | BY4742xYJM789 | *MATa/MATalpha, HIS3/his3, URA3/ura3, LEU2/leu2, LYS2/lys2, MED15$^{YJM789}$/med15$^{BY}$::Nat R* | this study |
| 18 | $MED15^{BY}/\Delta$ | BY4742xYJM789 | *MATa/MATalpha, HIS3/his3, URA3/ura3, LEU2/leu2, LYS2/lys2, MED15$^{BY}$/med15$^{YJM789}$::NAT R* | this study |
| 19 | $\Delta/\Delta$ | BY4742xYJM789 | *MATa/MATalpha, HIS3/his3, URA3/ura3, LEU2/leu2, LYS2/lys2 med15$^{YJM789}$::NatR/med15$^{BY}$::KanR* | this study |
| 20 | $MED15^{YJM789}\text{-}Myc/\Delta$ | BY4742xYJM789 | *MATa/MATalpha, HIS3/his3, URA3/ura3, LEU2/leu2, LYS2/lys2, MET15/met15 pMED15$^{YJM789}$-Myc:KanR/ med15$^{BY}$::NatR* | this study |
| 21 | $MED15^{BY}\text{-}Myc/\Delta$ | BY4742xYJM789 | *MATa/MATalpha, HIS3/his3, URA3/ura3, LEU2/leu2, LYS2/lys2 MED15$^{BY}$-Myc:KanR/ med15$^{YJM789}$::NatR* | this study |
| 22 | BY4741 wildtype empty | BY4741 | pGS35 | this study |
| 23 | BY4741 *med15* empty | BY4741 | pGS35, *med15$^{BY}$::NatR* | this study |
| 24 | BY4741 $MED15^{S288c}$-*Myc* | BY4741 | *med15$^{BY}$::NatR* p*MED15$^{YJM789}$*-Myc (pGS35 with KanR, *URA3*) | this study |
| 25 | BY4741 $MED15^{YJM789}$-*Myc* | BY4741 | *med15$^{BY}$::NatR* p*MED15$^{YJM789}$*-Myc (KanR, *URA3*) | this study |
| 26 | BY4741 $MED15^{BY}$-*Myc* | BY4741 | *MED15$^{BY}$-Myc::KanR* (genomic integration) | this study |

| 27 | BY4741 $MED15^{S288c}$ | BY4741 | $med15^{BY}::NatR$ p$MED15^{S288c}$ (KanR) | this study |
|---|---|---|---|---|
| 28 | BY4741 $MED15^{YJM789}$ | BY4741 | $med15^{BY}::NatR$ p$MED15^{S288c}$ (KanR) | this study |
| 29 | BY4741 $MED15^{BY}/MED15^{YJM789}$-Myc | BY4741 | p$MED15^{YJM789}$-Myc | this study |
| 30 | BY4741 $MED15^{BY}/MED15^{S288c}$ | BY4741 | p$MED15^{S288c}$-Myc | this study |
| 31 | YJM789 wildtype empty | YJM789K5a | pGS35 | this study |
| 32 | YJM789 $med15\Delta$ empty | YJM789K5a | $med15::NatR,$ pGS35 | this study |
| 33 | YJM789 $MED15^{YJM789}$-Myc | YJM789K5a | $med15::NatR,$ p$MED15^{YJM789}$-Myc | this study |
| 34 | YJM789 $MED15^{S288c}$-Myc | YJM789K5a | $med15::NatR,$ p$MED15^{S288c}$-Myc | this study |
| 35 | YJM789 $MED15^{YJM789}/MED15^{YJM789}$-Myc | YJM789K5a | p$MED15^{YJM789}$-Myc | this study |
| 36 | YJM789 $MED15^{YJM789}/MED15^{S288c}$-Myc | YJM789K5a | p$MED15^{S288c}$-Myc | this study |
| 37 | BY4741 $MED15$-Myc | BY4741 | p$MED15^{BY}$-Myc | this study |
| 38 | YJM789 $MED15$-Myc | YJM789 | p$MED15^{YJM789}$-Myc | this study |
| 39 | $put4$ | BY4741 | $put4::KanR$ | (Tong $et$ $al.$ 2001) |
| 40 | $ptr2$ | BY4741 | $ptr2::KanR$ | (Tong $et$ $al.$ 2001) |
| 41 | $yjd1$ | BY4741 | $ydj1::KanR$ | (Tong $et$ $al.$ 2001) |
| 42 | $yjd1, MED15^{S288c}$-Myc | BY4741 | $ydj1::HygR, med15::NatR$ p$MED15^{YJM789}$-Myc:KanR | this study |
| 43 | $yjd1, MED15^{YJM789}$-Myc | BY4741 | $ydj1::HygR, med15::NatR$ p$MED15^{YJM789}$-Myc:KanR | this study |
| 44 | $snf1$ | BY4741 | $snf1::HygR$ | this study |

| 45 | *reg1* | BY4741 | *reg1::HygR* | this sudy |
|----|--------|--------|-------------|-----------|
| 46 | *med15, snf1* | BY4741 | *med15::NatR, snf1::HygR* | this study |
| 47 | *med15, reg1* | BY4741 | *med15::NatR, reg1::HygR* | this sudy |
| 48 | *snf1, MED15$^{S288c}$-Myc* | BY4741 | *snf1::HygR, med15::NatR,* p*MED15$^{S288c}$*-Myc | this study |
| 49 | *snf1, MED15$^{YJM789}$-Myc* | BY4741 | *snf1::HygR, med15::NatR* p*MED15$^{YJM789}$*-Myc | this study |
| 50 | *reg1, MED15$^{S288c}$-Myc* | BY4741 | *reg1::KanR, med15::NatR* p*MED15$^{S288c}$*-Myc | this study |
| 51 | *reg1, MED15$^{YJM789}$-Myc* | BY4741 | *med3::KanR, med15::NatR* p*MED15$^{YJM789}$*-Myc | this study |
| 52 | *snf1, MED15$^{S288c}$* | BY4741 | *snf1::HygR, med15::NatR,* p*MED15$^{S288c}$* | this study |
| 53 | *snf1, MED15$^{YJM789}$* | BY4741 | *snf1::HygR, med15::NatR* p*MED15$^{YJM789}$* | this study |
| 54 | *reg1, MED15$^{S288c}$* | BY4741 | *reg1::KanR, med15::NatR* p*MED15$^{S288c}$* | this study |
| 55 | *reg1, MED15$^{YJM789}$* | BY4741 | *reg1::KanR, med15::NatR* p*MED15$^{S288c}$* | this study |
| 56 | *yjd1* | BY4741 | *ydj1::KanR* | (Tong *et al.* 2001) |
| 57 | *yjd1, MED15$^{S288c}$-Myc* | BY4741 | *ydj1::HygR, med15::NatR* p*MED15$^{YJM789}$*-Myc | this study |
| 58 | *yjd1, MED15$^{YJM789}$-Myc* | BY4741 | *ydj1::HygR, med15::NatR* p*MED15$^{YJM789}$*-Myc | this study |

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