

Data Set 1

Primers

Knockout primers: lowercase, homologous to kanMX4 insert; uppercase, homologous to genomic DNA

IZH1 deletion (Δ 1-304)

IZH1 KO5' 5'-TCG CCT TAA TTG AGT CAA GCA AGA TAA AAG AAA AAA Acg tac gct gca ggt cga c-3'
IZH1 KO3' 5'-TCA AGG GTG GAT ATG AGA ATG CAT TAA TTT GTA AGA ATC Gat cga tga att cga gct cg-3'

PCR confirmation primers: lowercase, homologous to kanMX4 insert; uppercase, homologous to genomic DNA

IZH1 KO Confirm 5'-TTG TAC CAG ATA GTG ACT GT-3' (-600 bp from ATG)
IZH2 KO Confirm 5'-ACG CTA TTG GAA ACA ATA CG-3' (-270 bp from ATG)
IZH3 KO Confirm 5'-TCA CCT CCG CTT ACG GAG-3' (-200 bp from ATG)
IZH4 KO Confirm 5'-TGG GCC TTC GTC AAT AGC-3' (-510 bp from ATG)
5' kanMX4 5'-ggg atc cgt cga cct gca gcg tac g-3' (+100 bp from 5' end of kanMX4)

Promoter fragment primers: lowercase, homologous to YEp353; uppercase, homologous to genomic DNA

IZH1 promoter fragment (-979 to 0)

IZH1 Promoter 5' 5'-caa acc gcc tct ccc cgc gcg ttg gcc gat tca ttc ceg gTG GGT CGA CAA CAT CTT TG-3'
IZH1 Promoter 3' 5'-cga cgg cgg gat cgc aag ctt ggc tgc agg tgc acg gat cca tTT TTT TTC TTC TTT TAT CT-3'

IZH2 promoter fragment (-1030 to 0, 0 at second in frame ATG)

IZH2 Promoter 5' 5'-caa acc gcc tct ccc cgc gcg ttg gcc gat tca ttc ceg gAT TGC TAT CAG CGA TAC TAA-3'
IZH2 Promoter 3' 5'-cga cgg cgg gat cgc aag ctt ggc tgc agg tgc acg gat cca tTT GGA ATG ATT CTT CTC-3'

IZH3 promoter fragment (-990 to 0)

IZH3 Promoter 5' 5'-caa acc gcc tct ccc cgc gcg ttg gcc gat tca ttc ceg gCA GCT TAT CGA ACT ACC AT-3'
IZH3 Promoter 3' 5'-cga cgg cgg gat cgc aag ctt ggc tgc agg tgc acg gat cca tGT ACT TAA TTT GAT TGT C-3'

IZH4 promoter fragment (-994 to 0)

IZH4 Promoter 5' 5'-caa acc gcc tct ccc cgc gcg ttg gcc gat tca ttc ceg gAA TGT TCG CTT CCA TTT GG-3'
IZH4 Promoter 3' 5'-cga cgg cgg gat cgc aag ctt ggc tgc agg tgc acg gat cca tAC TGT CAA TAT ATA TGT A-3'

Primers for transversion mutation of ZRE: lowercase shows mutZRE; lowercase/bold, homologous to YEp353

IZH1 Internal for 5'-TTA TCA TGC Aca agg gct ttg CCA AGC CCT TAA ATC CGA-3'
IZH1 Internal rev 5'-caa agc cct tgT GCA TGA TAA GAC CTA CTT A-3'
IZH1 External 5' 5'-**caa acc gcc tct ccc cgc gcg ttg gcc gat tca ttc ceg** gTG GGT CGA CAA CAT CTT TG-3'
IZH1 External 3' 5'-**cga cgg cgg gat cgc aag ctt ggc tgc agg tgc acg gat cca** tTT TTT TTC TTC TTT TAT CT-3'
IZH2 Internal for 5'-ATA TCG TAC Tga aga gct ttg AGC ACT ACC TTG TTT AGG C-3'
IZH2 Internal rev 5'-caa agc cct tcA GTA CGA TAT CAA GTA CAC T-3'
IZH2 External 5' 5'-**caa acc gcc tct ccc cgc gcg ttg gcc gat tca ttc ceg** gAT TGC TAT CAG CGA TAC TAA-3'
IZH2 External 3' 5'-**cga cgg cgg gat cgc aag ctt ggc tgc agg tgc acg gat cca** tTT GGA ATG ATT CTT CTC-3'

CYC1 Δ UAS-lacZ promoter insert primers: ZRE in lowercase; uppercase, homologous to pNB404

IZH1 Internal forward 5'-acc ttt agg gtC CAA GCC CTT TCG ACT TCT AGA GTC GAG C-3'
IZH1 Internal reverse 5'-TAG GGC TTG Gac cct aaa ggt TGC ATG ATA AGG CCG ACT CGA GCC TAA-3'
pNB404 External forward 5'-GCA CCA GCG TCA GCA TTT-3'
pNB404 External reverse 5'-TGC TGC AAA GGT CCT AAT TG-3'

Multicopy (2 μ) overexpression primers (YEp353): lowercase, homologous to YEp353; uppercase, homologous to genomic DNA

IZH3 genomic fragment (990 bp upstream, ORF, 451 bp downstream)

IZH3 5' 5'-caa acc gcc tct ccc cgc gcg ttg gcc gat tca ttc ccg gCA GCT TAT CGA ACT ACC AT-3'

IZH3 3' 5'-cga cgg cgg gat cgc aag ctt gcc tgc agg tgc acg gat cTA CAA GGC ACT GAG CAG C -3'

Single copy (CEN) expression primers (pRS315): lowercase, homologous to pRS315; uppercase, homologous to genomic DNA

IZH1 genomic fragment (750 bp upstream, ORF, 270 bp downstream)

IZH1 5' 5'-tga att gta ata cga ctc act ata ggg cga att gga gct cAG GAT ACT CTT GCG TTT GTG-3'

IZH1 3' 5'-ggg aac aaa agc tgg gta ccg ggc ccc ccc tgc agg tgc aGG AAG TCT TTT AGT CCT ATC-3'

IZH2 genomic fragment (1030 bp upstream, ORF, 496 bp downstream)

IZH2 5' 5'-tga att gta ata cga ctc act ata ggg cga att gga gct cAT TGC TAT CAG CGA TAC TAA-3'

IZH2 3' 5'-ggg aac aaa agc tgg gta ccg ggc ccc ccc tgc agg tgc aTG TGC ACC ATA GCC TAT AAA-3'

IZH4 genomic fragment (994 bp upstream, ORF, 491 bp downstream)

IZH4 5' 5'-tga att gta ata cga ctc act ata ggg cga att gga gct cAA TGT TCG CTT CCA TTT GG-3'

IZH4 3' 5'-ggg aac aaa agc tgg gta ccg ggc ccc ccc tgc agg tgc aTT TTC CTT AAC AAT GCG ATG-3'

GAL1 overexpression primers (pRS316-GAL-LEU2): lowercase, homologous to vector; uppercase, homologous to genomic DNA

IZH1 fragment (ATG to 17 bp downstream)

IZH1 5' 5'-tac ttc tta ttc ctc tac cgg atc ccg ctc gag gtc gac ATG AGT ATC ACC ACT ACT AG-3'

IZH1 3' 5'-tga gcg cgc gta ata cga ctc act ata ggg cga att gga gct cGT AGT AGT TGT AGG CCC A-3'

IZH2 fragment (ATG to 6 bp downstream)

IZH2.1 5' 5'-tac ttc tta ttc ctc tac cgg atc ccg ctc gag gtc gac ATG CTG CAT GTT GGA GAA GA-3'

IZH2.2 5' 5'-tac ttc tta ttc ctc tac cgg atc ccg ctc gag gtc gac ATG TCA ACT TTA TTA GAA AGG-3'

IZH2 3' 5'-tga gcg cgc gta ata cga ctc act ata ggg cga att gga gct cCA AAT ATC TAG GAG ACA AT-3'

IZH3 fragment (ATG to 33 bp downstream)

IZH3 5' 5'-tac ttc tta ttc ctc tac cgg atc ccg ctc gag gtc gac ATG ATG GAC TCG TCA AGC A-3'

IZH3 3' 5'-tga gcg cgc gta ata cga ctc act ata ggg cga att gga gct cAG GAT GTT GTA AGT AAA GG-3'

IZH4 fragment (ATG to 10 bp downstream)

IZH4 5' 5'-tac ttc tta ttc ctc tac cgg atc ccg ctc gag gtc gac ATG GTT TCA TTG ACT ACA ATA-3'

IZH4 3' 5'-tga gcg cgc gta ata cga ctc act ata ggg cga att gga gct cAC CAG CTG AGT CTA AGA-3'