

Supplemental Table 1; oligonucleotides used in this work

BiFC clones	
Sultr1;2 TOPOF	5' c acc atg tcg tca aga gct cac cct g 3'
Sultr1;2 TOPOR	5' gac ctc gtt gga gag ttt tgg aca 3'
Sultr1;2ΔSTAS TOPOR	5' ggc ttc agg ata ctg ttg aat att tct gta 3'
OASTL TOPOF	5' c acc atg gcc tcg aga att gct aaa gat gtg act 3'
OASTL TOPOR	5' agc ctc gaa ggt cat ggc ttc cgc -3'
Yeast two hybrid clones	
1;2LSTAS FE	5' ata <i>gaa ttc</i> gct gct gct gct gct gct gct gct gct tcg atc tcg ttt gct aag atc 5' ata <i>gaa ttc</i> gct gct gct gct gct gct gct gct gct gct att caa cag tat cct gaa gcc
1;2STAS FE	3'
1;2 RX	5' act <i>ctc gag</i> tca gac ctc gtt gga gag 3'
1;1LSTAS FE	5' ata <i>gaa ttc</i> gct gct gct gct gct gct gct gct gct gtg atc tct ttt gca aag ata 3
1;1STAS FE	5' ata <i>gaa ttc</i> gct gct gct gct gct gct gct gct gct act cta cag tat ccg gac gc 3'
1;1stop RSaI	5' ata <i>gtc gac</i> tta agt ttg ttg ctc agc cac ttc 3'
OASTL 1M	
OASTL F	5' ct tat gat gtg cca gat tat gcc tct ccc gaa ttc atg gcc tcg aga att gct aaa gat g 3'
OASTL R	5' t tga cca aac ctc tgg cga aga agt cca aag ctt <i>ctc gag</i> tca agc ctc gaa ggt cat gg 3'
OASTL 39M FE	5' att <i>GAA TTC</i> atg gaa ccg tgc tct agc gtc 3'
OASTL 111A FE	5' att <i>GAA TTC</i> gct ttt gga gtt gag ttg gtt tta ac 3'
OASTL 144M	5' att <i>GAA TTC</i> atg ctt cag cag ttt gag aac 3'
OASTL 175G FE	5' att <i>GAA TTC</i> ggc ttt gtt tct ggg att ggt act 3'
OASTL 210S FE	5' att <i>GAA TTC</i> agt gct att cta tcc ggt ggg 3'
OASTL 233S FE	5' att <i>GAA TTC</i> agt gta ttg aat gtt gat ctt att gac gaa g 3'
OASTL RX	5' ata <i>CTC GAG</i> tca agc ctc gaa ggt cat ggc -3'
OASTL233S RX	5' act <i>CTC GAG</i> tca act tgg tat aaa acc agc tcc tat ccc 3'
OASTL 240I RX	5' ata <i>CTC GAG</i> tca aat aag atc aac att caa tac act tgg 3'
OASTL 287A RX	5' ata <i>CTC GAG</i> tca agc gtt ttc tgg cct ctg tgc -3'
MBP fusion protein	
1;2 LSTAS FE	5' ata <i>gaa ttc</i> atg tcg atc tcg ttt gct aag atc c 3'
1;2 STAS FE	5' att <i>gaa ttc</i> att caa cag tat cct gaa gcc act atg g 3'
1;2 RH	5' t ata <i>agc tta</i> gac ctc gtt gga gag ttt tgg aca 3'
1;1 LSTAS FE	5' att <i>gaa ttc</i> gtg atc tct ttt gca aag ata ttg 3'
1;1 STAS FE	5' ata <i>gaa ttc</i> act cta cag tat ccg gac gc 3'

1;1 RH 5' t ata agc tta agt ttg ttg ctc agc cac ttc 3'

6His fusion protein

OASTL-6His

OASTL FNc 5' gctt gcc atg gcc tct cgt att gct aaa gat gtg 3'

OASTL RB 5' ata gg atc cga agc ctc gaa ggt cat ggc ttc cgc 3'

6His-OASTL

OASTL FNde 5' gct tga cat atg gcc tct cgt att gct aaa gat gtg 3'

To incorporate mutations in OASTL

OASTL K46A for 5' c tct agc gtc gca gac agg att ggt ttt agc atg 3'

OASTL K46A rev 5' cc aat cct gtc tgc gac gct aga gca cgg ttc c 3'

OASTL H221A for 5' ag cca ggt cct gca aag att caa ggg ata gga gc 3'

OASTL H221A rev 5' ttg aat ctt tgc agg acc tgg ctt ccc acc 3'

SO₄²⁻ uptake and OASTL activity assay in CP154-7B

OASTL-Flag

PMA1pro F₅ac 5' a tta gag ctc cag ccg cac atg gcc gga g 3'

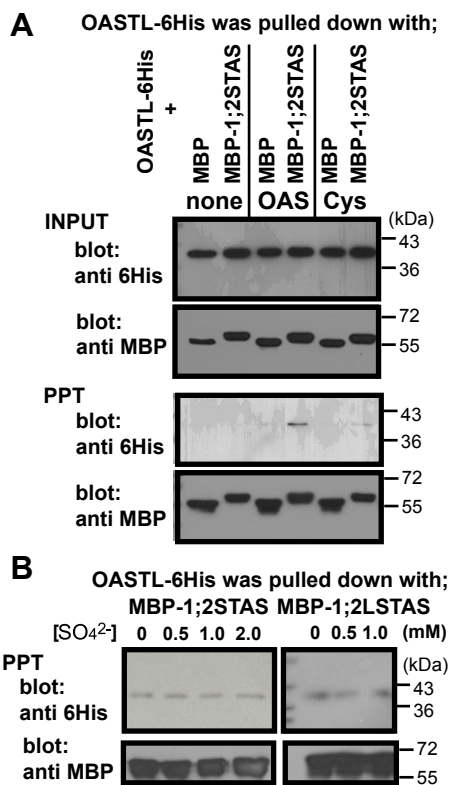
PMA1pro RB 5' ata gga tcc cat att gat att gtt tga_taa tta aat ctt tct tat ctt c 3'

OASTL FB 5' att gga tcc atg gcc tcg aga att gct aaa gat g 3'

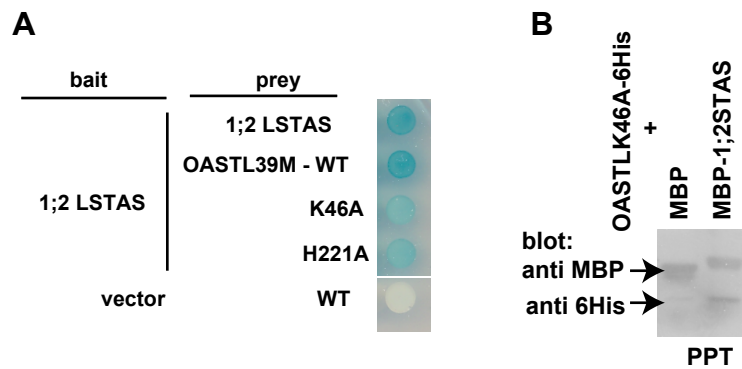
OASTL RS 5' act aag tcg act agc ctc gaa ggt cat ggc 3'

Flag-ADHter FS 5' ata cgt cga cca gac tac aag gat gac gat gac aag taa aag ctt tgg act tct tcg cca 3'

ADHter RNot 5' at atc ata gcggccgc gtc tgg aag aac gat tac aac ag 3'



Supplemental Figure 1. Effect of cysteine or SO₄²⁻ on the interaction between OASTL and 1;2STAS (A) 1 mM OAS increases interaction of OASTL with 1;2STAS while 1 mM cysteine does not have a significant effect on binding. *In vitro* binding assay was performed as described in **Fig. 2** or in Experimental procedures. (B) Addition of 0-2.0 mM SO₄²⁻ to the reaction including 1 mM OAS does not alter the binding efficiency of STAS or LSTAS of SULTR1;2 to OASTL.



Supplemental Figure 2. Effect of the K46A mutation in OASTL on the interaction between OASTL and 1;2STAS (A) Interaction of SULTR1;2LSTAS with OASTL39M or OASTL39M containing the K46A or H221A mutation in yeast two-hybrid system. (B) Binding of OASTL with the K46A mutation to the STAS protein of SULTR1;2 in the *in vitro* binding assay is similar to that shown in **Figs. 2A-B**.