

Invasion assay of mutant strain

Before wash

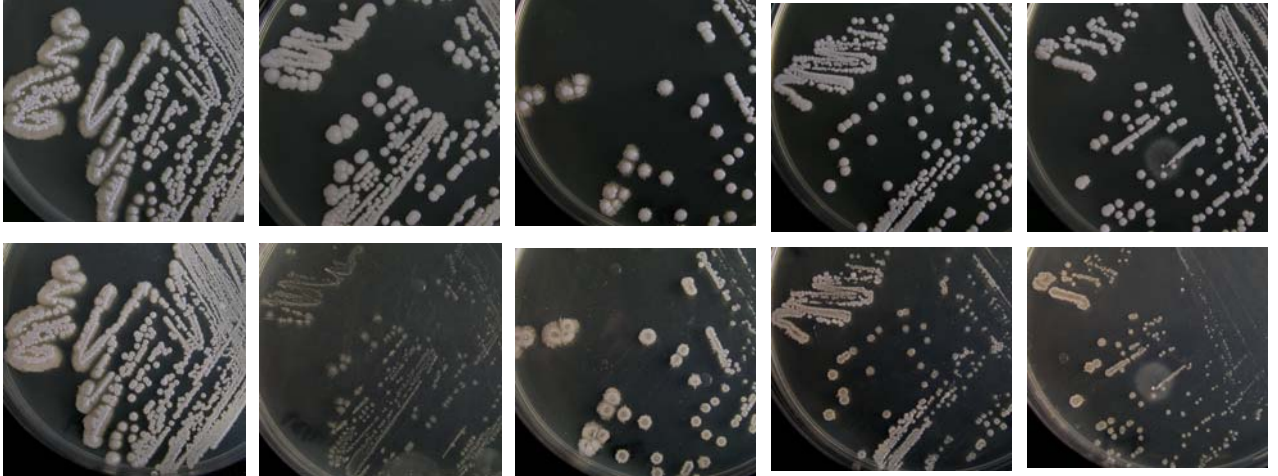
SC5314
(WT)

HLC54
(*cph1/cph1 efg1/efg1*)

BAU2
(*eng1::ARG41*
/eng1::URA3)

BAU4
(*eng::ARG41*
/eng1::URA3)

BAH1-1
(*eng1::ARG4/*
eng1::HIS1)



After wash

Before wash

BAH1-4
(*eng1::ARG4*
/eng1::HIS1)

BAUH3
(*eng1::ARG4*
/eng1::URA3+
HIS1)

BAHU5
(*eng1::ARG4*
/eng1::HIS1+
URA3)

BAHU10
(*eng1::ARG4*
/eng1::HIS1+
URA3)

BAHUE9
(*eng1::ARG4*
/eng1::HIS1+
ENG1+URA3)

BAHUE10
(*eng1::ARG4*
/eng1::HIS1+
ENG1+URA3)



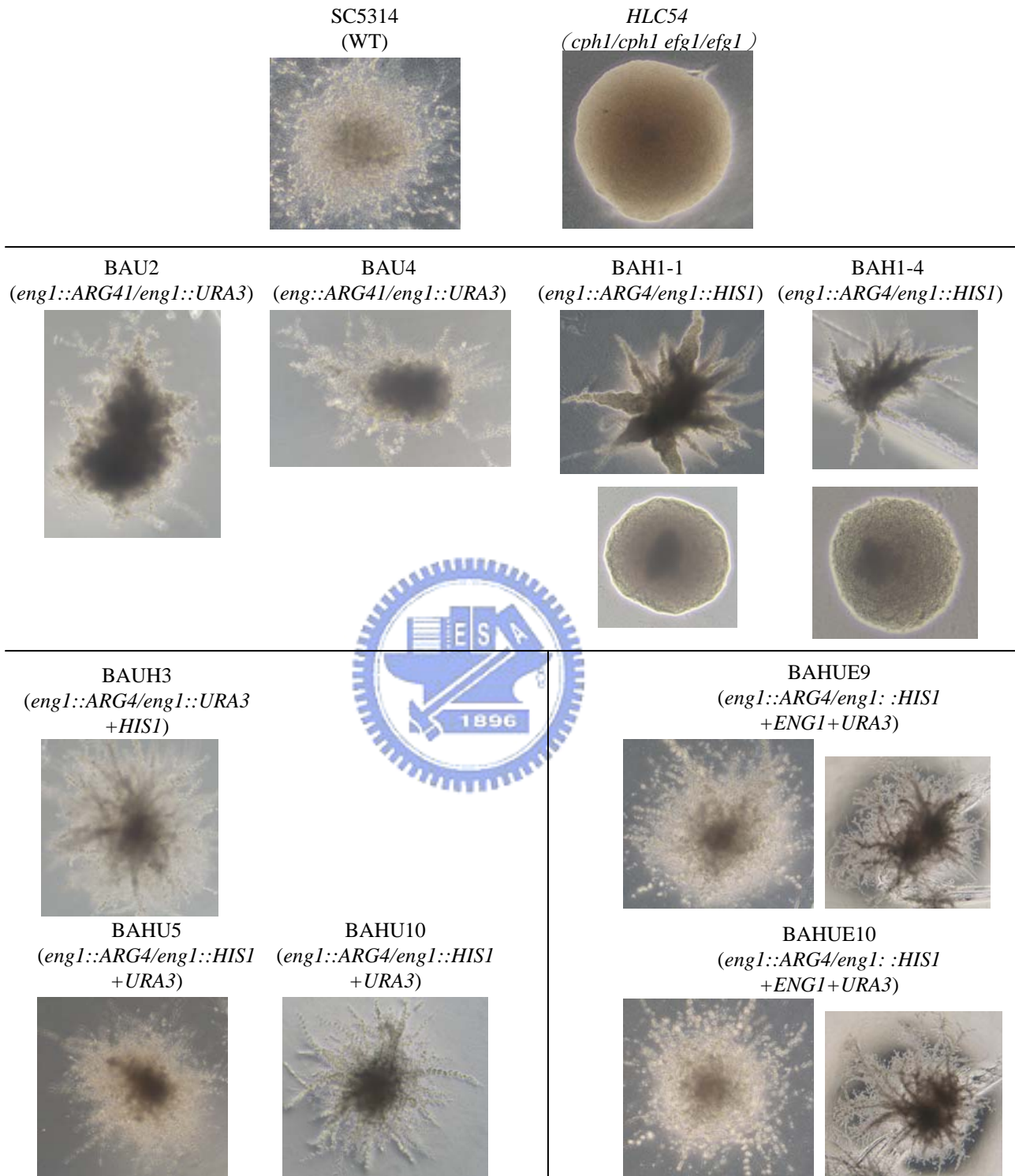
After wash

圖三十二、各種突變株之侵犯力分析

圖上方表示不同的突變株，分別以野生株 SC5314、突變株 HLC54 (*cph1/cph1 efg1/efg1*)，用來作正負對照。在37°C 含有 4% 山羊血清的 solid spider 培養基中培養七天後，用固定水流沖洗菌體，觀測培養基沖洗前後所得到之結果。

Mutant strain on bacto agar plate

Bacto agar plate with 4% serum

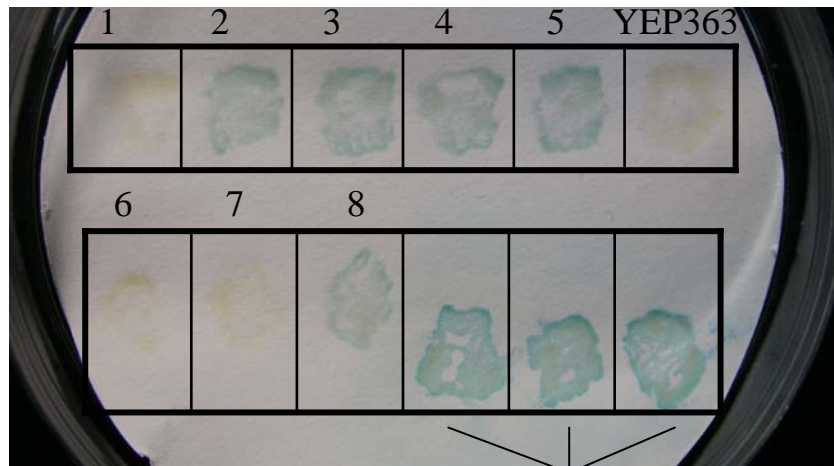


圖三十三、各種突變株在 bacto agar 培養基上的生長型態

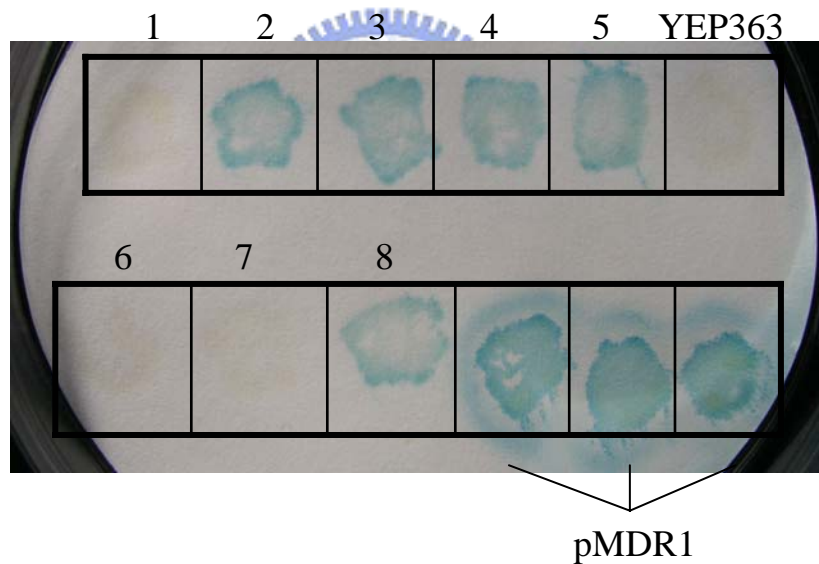
圖上方表示不同的基因破壞株，以野生株 SC5314、突變株 HLC54 (*cph1/cph1 efg1/efg1*)，用來作正負對照。在 37°C 含有 4% 山羊血清的 bacto agar 培養基中，培養七天後，觀測培養基所得到之結果。培養基皆未加入其它營養源。

Filter β galactosidase assay

<A> 37 °C with serum



 30 °C no serum



圖三十四、利用報導基因*lacZ*檢驗*ENG1*啟動子的作用

1~8 為在質體YEP363報導基因上游處殖入*ENG1*啟動子的菌株SCH0(包含*ENG1*的ATG)後，將質體轉形至酵母菌10560-2B檢驗 β galactosidase的結果，YEP363為不帶有*ENG1*啟動子的質體，pMDR1為在質體YEP363報導基因上游處殖入*MDR1*啟動子的菌株，做為positive control。

Gene Name	origin	Homolog in <i>C.albicans</i>	Nucleotide similarity	characteristic in <i>S.cerevisiae</i>
<i>DSE4</i>	<i>S.cerevisiae</i>	<i>ENG1</i>	61% / 61%	Endo-1,3- β glucanase of cell wall
<i>DSE2</i>	<i>S.cerevisiae</i>	none	--- / ---	Daughter cell-specific secreted protein putative glucan 1,3- β -glucosidase activity
<i>BGL2</i>	<i>S.cerevisiae</i>	<i>BGL2/BGL21</i>	69% / 69%	Endo-1,3- β glucanase of the cell wall
<i>ACF2</i>	<i>S.cerevisiae</i>	<i>ENG2/ACF2</i>	56% / 56%	Endo-1,3- β glucanase
<i>SCW4</i>	<i>S.cerevisiae</i>	<i>MP65</i>	68%	Cell wall protein, putative glucanase
		<i>SCW4</i>	59% / 59%	
<i>SCW10</i>	<i>S.cerevisiae</i>	<i>MP65/SCW1/SCW10</i>	65%	Cell wall protein, putative glucanase, may play a role in conjugation during mating
<i>SUN4</i>	<i>S.cerevisiae</i>	<i>SUN41</i>	70% / 70%	Protein involved in the aging process; related to glucanases
		<i>SIM1</i>	66% / 66%	
<i>EXG1</i>	<i>S.cerevisiae</i>	<i>XOG1</i>	67% / 67%	Exo-1,3- β glucanase (I/II), major isoform
		<i>EXG2</i>	62% / 62%	
<i>EXG2</i>	<i>S.cerevisiae</i>	<i>EXG2</i>	57% / 57%	Exo-1,3- β glucanase minor isoform
<i>SSG1/SPR1</i>	<i>S.cerevisiae</i>	<i>XOG1</i>	63% / 63%	Exo-1,3- β glucanase precursor
		<i>EXG2</i>	64% / 64%	

表一、Glucanase in *Saccharomyces cerevisiae* or *Candida albicans*

Germ tube assay 結果整理

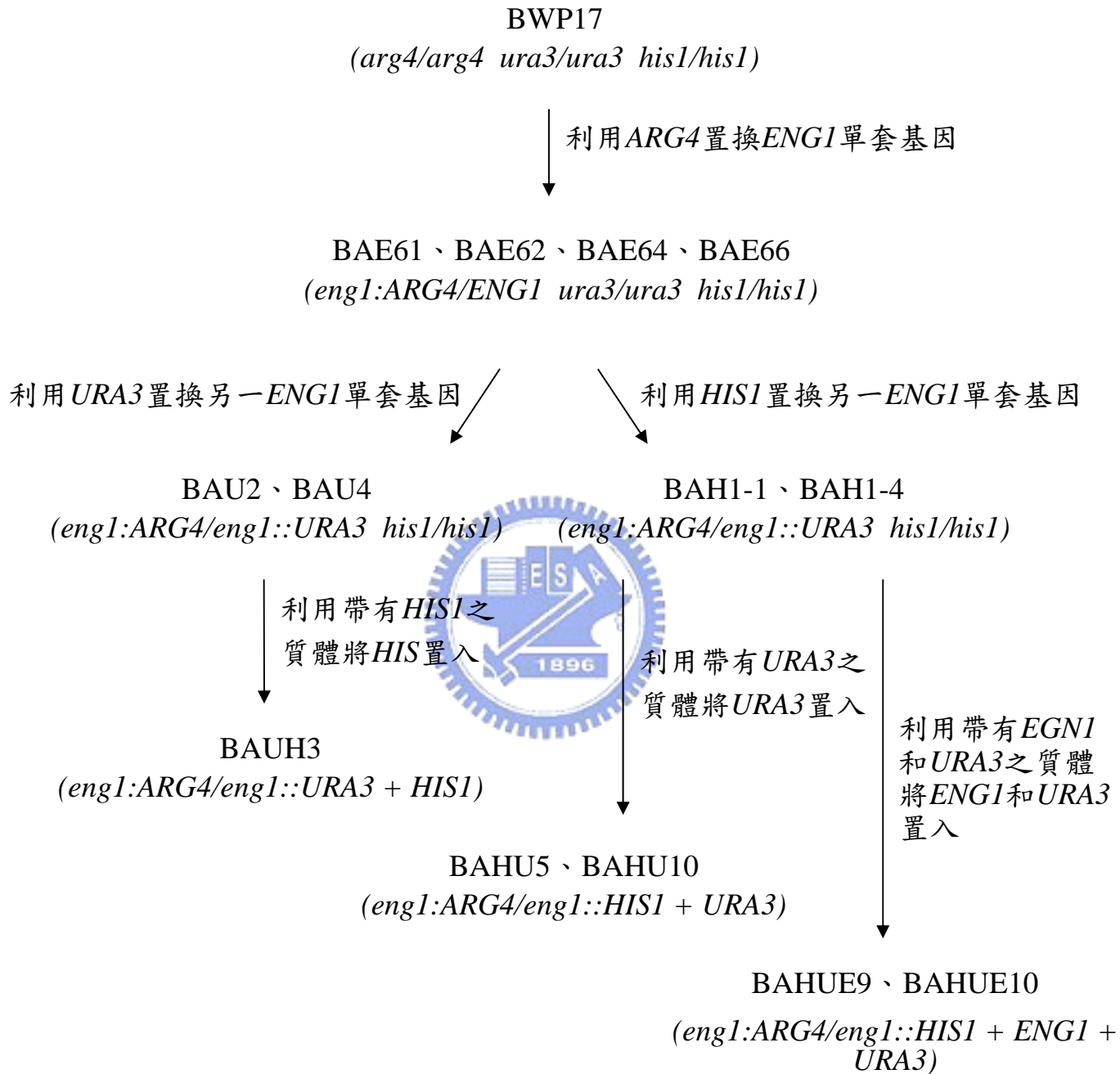
	30°C + serum		30°C no serum		37°C + serum		37°C no serum	
	G	C	G	C	G	C	G	C
SC5314 (WT)	X	*	X	*	** *	*	X	*
MLC52 (<i>efg1/efg1</i> <i>CPH1/CPH1</i>)	X	*	X	*	X	**	X	*
JKC19 (<i>EFG1/EFG1</i> <i>cph1/cph1</i>)	X	*	X	*	*	*	X	**
MLC54 (<i>efg1/efg1</i> <i>cph1/cph1</i>)	X	*	X	*	X	*	X	*
BAU2 (<i>eng1/eng1</i>)	X	** *	X	*	*	**	X	**
BAU4 (<i>eng1/eng1</i>)	X	** *	X	*	**	**	X	**
BAH1-1 (<i>eng1/eng1</i>)	X	**	X	**	** *	*	X	**
BAH1-4 (<i>eng1/eng1</i>)	X	**	X	*	**	*	X	**

C : cluster

G : germ tube

表二、 * 代表此性狀之明顯程度

X 代表沒有觀測到此現象, 故不與比較



表三、ENG1相關突變株之建構流程