

The pYW19-2 insert was used to probe a Southern blot of G13:8:G restriction digests. Results suggest that an approximately 6.3-kb *Eco*R1 fragment contains the *lys-5* gene. As cosmid G13:8:G was not identified in the *cpc-1* walk we initiated a chromosome walk from the *lys-5/un-4* region in an attempt to link up to our *cpc-1* walk. A G13:8:G based probe identified cosmid X6:6. A X6:6:F based probe identified cosmid X22:2:B. No new cosmid clones were identified with a X22:2:B based probe.

Penicillium c. HC Synthase	181	IEVIEFVKSK	GIEIRFSSD	
		+	+ +	
Neurospora Lys-5		VIEYVKSK	GLEVRFSSD	
Pc HC	SFRSDLVDLL	SIYSAVDKVG	VNRVGIADTV	GCASPRQVYE LVRVLRGVVG
		+		+ + +
Lys-5	SFRSDLVDLL	SLYRAVDKVG	VHRVGIADTV	GCASPRQVYD LVRTLGRVVS
Pc HC	<u>CDIETHFHND</u>	TGCAIANAF	C ALEAGATHID	TSVLGIGERN GITPLGGLMA
	+	+		
Lys-5	<u>CDIETHFHDD</u>	TGCAIANAYC	ALEAGAYHID	TSVLGIGERN GITPLGGLMA
Pc HC	RMMVADREYV	KSKYKLEKLE	EIEDLVAAEV	EVNIPFNYYI TGFCATFTHKA
	+	+		+
Lys-5	RMIVTSPDYV	KSKYKLHKLK	ELEDLVAAEV	EINTPFNNPI TGFCATFTHKA
Pc HC	GIHAKAILNN	PSTYEIINPA	DFGMSRYVHF	ASRLTGWNAI KSRAQQLKE
		+	++	+ }+ +
Lys-5	GIHAKAILNN	PSTYEILNPA	DFGLTRYVHP	ASRLTGWNAV KTRVGQLGLE
Pc HC	MTDTQYKECT	AKIKAMADIR	PIAVDDADSI	IRAYHRNLKS GENKPLDLT
		+ +	+	+ + + ++
Lys-5	MTDDQVKECT	AKIKALADVR	PIAIDDADSI	IRTFHLGLHE QNKVQPPAVV
Pc HC	AEEQAFAAK	EKELLEAQAA	GLPV	
	+			
Lys-5	EN			

Figure 2. Comparison of the amino acid sequence of the homocitrate synthase of *Penicillium chrysogenum* (Gene Bank AJ223630) and Lys-5. Identical residues are indicated by a vertical line. Residues of similar chemical properties are indicated by a +. A motif conserved in all known homocitrate synthases is underlined.