

Publication

A 28-bp segment of the *Saccharomyces cerevisiae* PHO5 upstream activator sequence confers phosphate control to the CYC1-lacZ gene fusion

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Two regions within the *Saccharomyces cerevisiae* PHO5 upstream activator sequence (UAS) are involved in phosphate dependent transcription activation [Rudolph and Hinnen, Proc. Natl. Acad. Sci. USA 84 (1987) 1340-1344]. In experiments carried out in vivo we showed that one of these can compensate for the CYC1 UAS and expresses the heterologous CYC1-lacZ gene in response to phosphate starvation. A 28-bp segment is very efficient in gene activation, and a 19-bp subsegment that corresponds to the UASp consensus sequence brings about a weak but still detectable activation. As was observed with other UAS, gene activation is obtained with either orientation of the element, and tandem copies yield double lacZ activity compared to a single copy. No gene activation is observed in a pho4 and in a pho2 mutant. Absence of PHO2 reduces the basal expression of CYC1.

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