


## Structures of yeast 80S ribosome-tRNA complexes in the rotated and nonrotated conformations

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Abstract	<p>The structural understanding of eukaryotic translation lags behind that of translation on bacterial ribosomes. Here, we present two subnanometer resolution structures of <i>S. cerevisiae</i> 80S ribosome complexes formed with either one or two tRNAs and bound in response to an mRNA fragment containing the Kozak consensus sequence. The ribosomes adopt two globally different conformations that are related to each other by the rotation of the small subunit. Comparison with bacterial ribosome complexes reveals that the global structures and modes of intersubunit rotation of the yeast ribosome differ significantly from those in the bacterial counterpart, most notably in the regions involving the tRNA, small ribosomal subunit, and conserved helix 69 of the large ribosomal subunit. The structures provide insight into ribosome dynamics implicated in tRNA translocation and help elucidate the role of the Kozak fragment in positioning an open reading frame during translation initiation in eukaryotes.</p>	
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