



UPPSALA
UNIVERSITET

Molecular Biotechnology Programme

Uppsala University School of Engineering

UPTEC X 12 010	Date of issue 2012-06	
Author	Lei Sun	
Title (English)	Evolution of new genes	
Title (Swedish)		
Abstract	<p>How new genes evolve is a central question of evolutionary biology. The aim of this study was the characterization of a set of genes. The genes studied were evolved from three variants of the <i>hisA</i>-gene, which are responsible for the synthesis of histidine and tryptophan. The <i>hisA</i>-variants were grown in media without amino acids, selecting mutants that improve the gene. The characterized genes showed gradual improvement and divergence of functions, supporting the Innovation-Amplification-Divergence model of gene evolution.</p>	
Keywords	Evolution, genes, duplication, Ohno, <i>hisA</i> , Innovation-Amplification-Divergence	
Supervisors	Dan I Andersson Joakim Näsval Uppsala University	
Scientific reviewer	Diarmaid Hughes Uppsala University	
Project name	Sponsors	
Language English	Security Secret until 2013-06	
ISSN 1401-2138	Classification	
Supplementary bibliographical information	Pages 41	
Biology Education Centre Box 592 S-75124 Uppsala	Biomedical Center Tel +46 (0)18 4710000	Husargatan 3 Uppsala Fax +46 (0)18 471 4687

