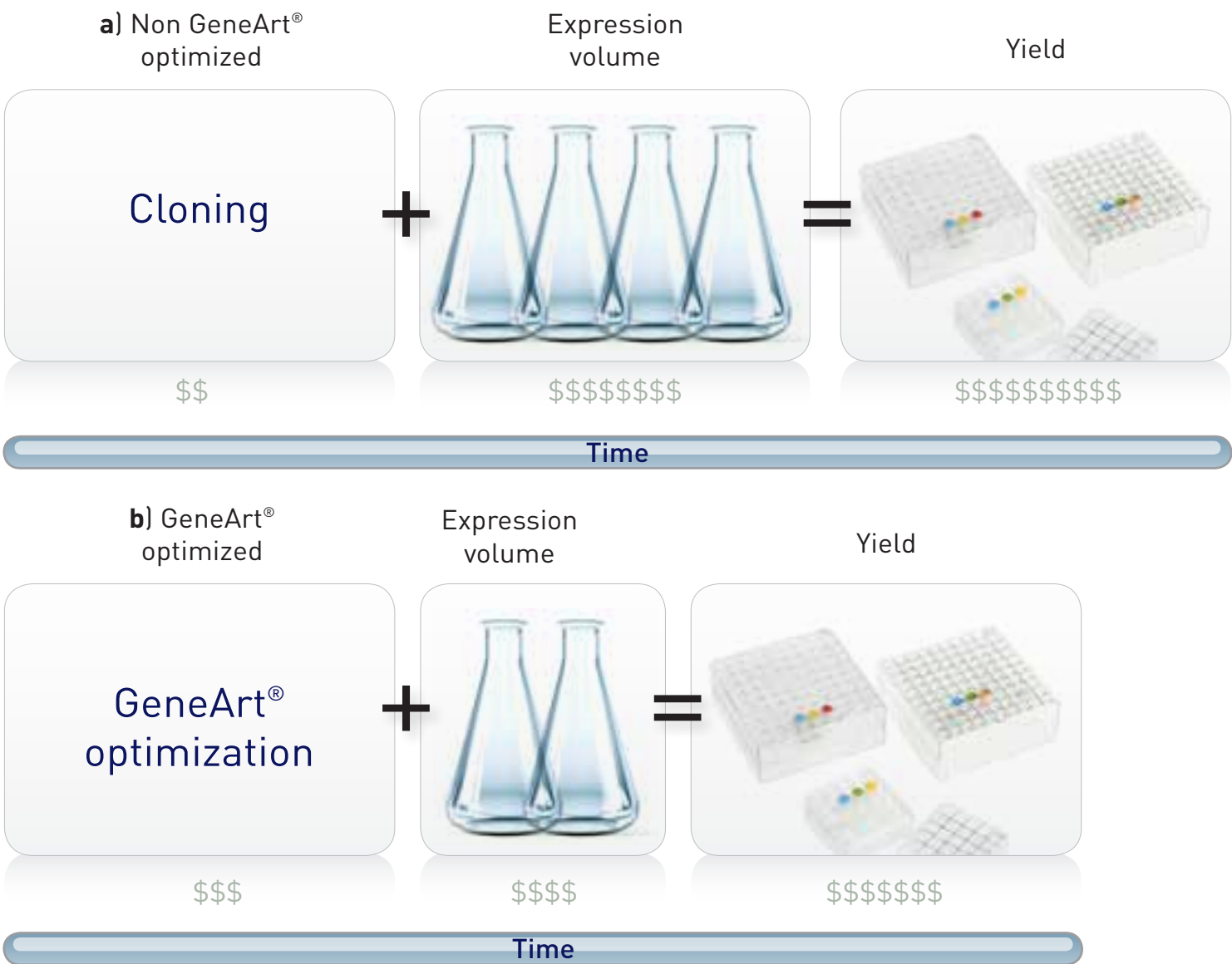


maximize process efficiency to
build your next breakthrough

There's a lot to gain from GeneArt® optimization



Optimize your workflow— GeneArt® optimization is proven effective

Proven effective for expression studies

Not only does GeneArt® optimization save you time and money for gene expression studies, it is proven to be an effective approach for expression reliability and yield.

A multigene expression study¹ showed the effectiveness of GeneArt® optimization by comparing expression efficiency of 50 wild type and optimized human genes (Table 1).

Table 1. Expression comparison of 50 wild type and GeneArt® optimized genes

	Constructs expressing	
	Wild type genes n (%)	Optimized genes n (%)
Number of constructs n (%)		
50 (100%)	44 (88%)	50 (100%)

A side-by-side expression comparison of relative gene expression demonstrates the great value of the GeneArt® approach for expression reliability and yield (Table 2).

Table 2. Relative expression increase of GeneArt® optimized versus wild type genes (median)

Transcription factors	Ribosomal proteins	Protein kinases	Membrane proteins	Immune modulator	Other	All proteins
3.0	2.1	1.6	2.2	1.3	3.5	1.9

The value of GeneArt® optimization

- 96% of optimized genes showed equal or higher protein expression, with 86% showing higher
- Up to 15-fold increase in protein yields
- 100% of optimized genes expressed
- 12% of wild type human genes could not be expressed in mammalian cells

¹Fath et al. (2001), Multiparameter RNA and Codon Optimization: A Standardized Tool to Assess and Enhance Autologous Mammalian Gene Expression. PLoS ONE 6(3): e17doi:10.1371/journal.pone.001759

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