



THE ENBASE ADVANTAGE

Will you benefit from the EnBase technology?

Many different user groups in biotechnology will benefit from the use of the EnBase technology. With the help of the EnBase technology High-throughput screening, scale-up research and optimisation of large scale processes, are all enhanced when high cell densities can be reached in small scale research. Reaching high cell densities in EnBase micro-well plates and EnBase shake-flasks enable protein production in small scale and the product quality is improved by enhanced culture conditions. We have listed the potential key user groups and collected references to their research in these key areas.

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4/8/2008



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The EnBase™ technology has its main benefit in area of high throughput microbial cultivations. The increase in cell density and the controlled state of the culture over a long time interval are beneficial for a higher production of protein and non-protein products, including plasmid DNA.

Following list introduces the potential key areas where the EnBase™ products are likely to be beneficial, and references to key research in those areas.

✓ PROCESS OPTIMIZATION FOR RECOMBINANT PROTEIN PRODUCTION

Kraft M, Knupfer U, Wenderoth R, Kacholdt A, Pietschmann P, Hock B, Horn U: **A dual expression platform to optimize the soluble production of heterologous proteins in the periplasm of Escherichia coli.** *Appl Microbiol Biotechnol* 2007, **76**:1413-1422.

Kraft M, Knupfer U, Wenderoth R, Pietschmann P, Hock B, Horn U: **An online monitoring system based on a synthetic sigma32-dependent tandem promoter for visualization of insoluble proteins in the cytoplasm of Escherichia coli.** *Appl Microbiol Biotechnol* 2007, **75**:397-406

✓ DNA PRODUCTION FOR HIGH THROUGHPUT GENOME SEQUENCING

Rogers YH, Venter JC: **Genomics: massively parallel sequencing.** *Nature* 2005, **437**:326-327.

Collins FS, Morgan M, Patrinos A: **The Human Genome Project: lessons from large-scale biology.** *Science* 2003, **300**:286-290.

Venter JC, Remington K, Heidelberg JF, Halpern AL, Rusch D, Eisen JA, Wu D, Paulsen I, Nelson KE, Nelson W et al.: **Environmental genome shotgun sequencing of the Sargasso Sea.** *Science* 2004, **304**:66-74.

✓ PROTEIN PRODUCTION FOR HIGH THROUGHPUT CRYSTALLISATION

Hui R, Edwards A: **High-throughput protein crystallization.** *J Struct Biol* 2003, **142**:154-161.

Deivanayagam C, Cook WJ, Walter MR: **Protein crystallization.** *Methods Mol Biol* 2007, **383**:337-349.

✓ **HIGH THROUGHPUT PROTEOMIC APPROACHES**

Persson A, Hober S, Uhlen M: **A human protein atlas based on antibody proteomics.** *Curr Opin Mol Ther* 2006, **8**:185-190.

Hober S, Uhlen M: **Human protein atlas and the use of microarray technologies.** *Curr Opin Biotechnol* 2008, **19**:30-35.

✓ **SCREENING OF ENZYME LIBRARIES**

Seelig B, Szostak JW: **Selection and evolution of enzymes from a partially randomized non-catalytic scaffold.** *Nature* 2007, **448**:828-831.

Altamirano MM, Blackburn JM, Aguayo C, Fersht AR: **Retraction. Directed evolution of new catalytic activity using the alpha/beta-barrel scaffold.** *Nature* 2002, **417**:468.

✓ **METAGENOMIC SCREENING APPROACHES**

Lorenz P, Eck J: **Metagenomics and industrial applications.** *Nat Rev Microbiol* 2005, **3**:510-516.

Gabor E, Liebeton K, Niehaus F, Eck J, Lorenz P: **Updating the metagenomics toolbox.** *Biotechnol J* 2007, **2**:201-206.

N.B BioSilta do not imply that the research or researchers above either support or utilized the EnBase Technology.