# Biolog 방문 세미나 주제 별 목차 소개

InSung Chroma-tech Co., ltd

# 주제 I. Phenotype Microarray for Microbial Cells

## Phenotype Microarray for Microbial Cells 세미나 목차

1. **미생물 세포 피노타입 마이크로어레이(PM) 개요**
   - 분석 원리
   - PM Microplate™
   - 기기 (OmniLog™)
   - 실험과정

2. **미생물 세포 피노타입 마이크로어레이(PM) 소프트웨어**
   - Biolog Software
   - OPM - an R package
   - DuctApe

3. **PM 어플리케이션**
   - Testing Cell Lines Exposed to Drugs or Other Chemicals
   - Testing Cell Lines with Genetic Differences
   - Direct Testing of Cell Lines

4. **PM 기술을 이용하여 미생물, 곰팡이, 진균을 분석한 발표 문헌 (Published Papers Using PM technology)**
   - High Throughput Phenotypic Analysis of Mycobacterium tuberculosis and Mycobacterium bovis Strains' Metabolism Using Biolog Phenotype Microarrays
   - Multiple antibiotic susceptibility of polyphosphate kinase mutants (ppk1 and ppk2) from Pseudomonas aeruginosa PAO1 as revealed by global phenotypic analysis
   - Characterization of Chromate-Resistant and Reducing Bacteria by Traditional Means and by a High- Throuhput Phenomic Technique for Bioremediation Purposes
   - Application of the Biolog system for characterization of Serratia marcescens ss marcescens isolated from onsite wastewater technology (OSWT)
   - A phenotypic microarray analysis of a Streptococcus mutants liaS mutant.
   - Phenotypic Variation in the Plant Pathogenic Bacterium Acidovorax citrulli
   - Phenotype microarray analysis of the drug efflux systems in Salmonella enterica serovar Typhimurium
   - Global nutrient profiling by Phenotype MicroArrays: a tool complementing genomic and proteomic studies in conidial fungi*
   - Evaluation of different lignocellulosic biomass pretreatments by phenotypic microarray-based metabolic analysis of fermenting yeast
   - Phenotypic microarray: A high-throughput screening tool for evaluation of desirable brewing traits in novel yeast strains

# 주제 II. Gut Microbiome: New Approaches to Analysis

| Gut Microbiome: New Approaches to Analysis 세미나 목차 |
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| 1. **Biolog 사의 Redox Dye 기반 세포 대사 및 생물에너지학(bioenergetic) 분석** |
| 2. **마이크로바이옴 분석 플레이트 소개**<br>- 혐기성 군집 분석 플레이트<br>- 호기성 군집 분석 플레이트<br>- 개별 균주 동정 및 대사 분석 |
| 3. **대사 기반 마이크로바이옴 분석**<br>- 미호기성 개별 장내 미생물 분석<br>- 장내 미생물의 독소 생산 분석 및 검출 |

# 주제 III. Phenotype Microarray for Mammalian Cells

## Phenotype Microarray for Mammalian Cells 세미나 목차

1. **인간, 포유류 세포 피노타입 마이크로어레이(PM-M) 개요**
   - 분석 원리
   - PM-M MicroPlate™
   - 기기(OmniLog™)
   - 실험 과정

2. **PM-M 어플리케이션**
   - Metabolic Fingerprinting of Cancer Cells
   - Assay of Cell Growth, Stasis, or Death Under Different Nutritional Conditions
   - CRISPR Gene Editing and Metabolic Phenotype Expression in a Haploid Cell Line
   - Differential Metabolic Profiling of Preadipocytes and Adipocytes
   - Profiling Drug Toxicity in Liver Cells
   - Cell Line Quality Control and Authentication
   - High Throughput Screening of Cell Culture Supplementation for Improved Bioprocess Outcomes

3. **PM-M 기술을 이용하여 Mammalian 세포를 분석한 발표 문헌 (Published Papers Using PM-M technology)**
   - Metabolomic Profiling Identifies Biochemical Pathways Associated with Castration-Resistant Prostate Cancer
   - Metabolomic Profiling of the Effects of Melittin on Cisplatin Resistant and Cisplatin Sensitive Ovarian Cancer Cells Using Mass Spectrometry and Biolog Microarray Technology
   - Extra-virgin olive oil contains a metabolo-epigenetic inhibitor of cancer stem cells
   - Genome-scale network model of metabolism and histone acetylation reveals metabolic dependencies of histone deacetylase inhibitors
   - The nutritional phenome of EMT-induced cancer stem-like cells
   - Analysis of Glycogen Metabolic Pathway Utilization by Dendritic Cells and T cells Using Custom Phenotype Metabolic Assays
   - Decreased tryptophan metabolism in patients with autism spectrum disorders
   - Zbtb16 has a role in brown adipocyte bioenergetics
   - Spermine synthase deficiency causes lysosomal dysfunction and oxidative stress in models of Snyder-Robinson syndrome

# 주제 IV. Mitochondrial Function Assays with MitoPlates

**Mitochondrial Function Assays with MitoPlates 세미나 목차**

1. **미토플레이트(MitoPlate™) 개요**
   - 분석 원리
   - MitoPlate S-1 & MitoPlate I-1 소개
   - 기기 (OmniLog™)
   - 분석 과정
2. **MitoPlate™ & Seahorse™ 분석법 비교**
3. **MitoPlate 기술을 이용하여 미토콘드리아 기능을 분석한 발표 문헌 (Published Papers Using MitoPlate technology)**
   - Granulosa cell mitochondrial substrate metabolism rates differ between older and younger patients
   - Acutely Lethal Influenza Infection Truncates the Citric Acid Cycle in Murine Alveolar Type II Epithelial Cells