

Forefront of Gene Therapy Manufacturing

FROM BENCH TO BEDSIDE



AFFORDABLE

Providing low-cost, high-quality vectors for use in cells, small/large animal models and in the clinic. Scalable proprietary transfection process, providing the benefit of higher cost-effectiveness.



RESEARCH TOOLS

High Titer, High Purity. Rapid turn around times. Additional research tools include AAV Biosensors - GCaMP, RCaMP, CaMPARI, jRGECO1; ORF clones, ZIKA, viral controls.



PRE-CLINICAL/CLINICAL

Providing custom, on-demand virus for pre-clinical and clinical applications. Additional services: Master and Working cell banking, Aseptic filling, QC testing. Compliant with US FDA and EU EMA regulatory requirements.



Feature Viral Vector Application Note.

Discover the advantage of Vigene's viral-tools and technologies to help meet your basic, preclinical, and/or clinical application needs. Specializing in **AAV**, **Adenovirus** and **Lentivirus** gene delivery.

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APPLICATION NOTE**

vigenebio.com/virus-manufacturing

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Excellence in Gene Delivery

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More data. One reaction.

Totally on-target assay design. The most intelligent targeted sequencing assay design ever. With comprehensive coverage of critical hotspot SNVs, contiguous tiled regions in coding sequences, and intron-exon boundaries in a revolutionary fast, simple, single-tube workflow, characterization and screening of your targets of interest is finally within reach. And on-target.

**Accel-Amplicon™
Custom NGS Panels**



swiftbiosci.com



Gene panels on demand, how and when you want them

Ion AmpliSeq On-Demand Panels help you get more from targeted next-generation sequencing

- **Now more selection**—build custom panels from a growing catalog of **over 5,000 pretested genes** most relevant in inherited disease research*
- **Now more sizes**—order the exact quantity you need: 8, 24, 32, and 96 reactions per pack

With practical pack sizes that help lower up-front cost, and a powerful content selection engine that automates optimal gene selection, Ion AmpliSeq™ On-Demand Panels help you do targeted sequencing in your own lab, your own way.

Do targeted sequencing your way at ampliseq.com

Learn more at thermofisher.com/ampliseqondemand



ThermoFisher
SCIENTIFIC

Custom Oligonucleotides

- ◆ Regular oligos
- ◆ Long oligos
- ◆ Phosphorothioated oligos (S-Oligos)
- ◆ Modified oligos
- ◆ Fluorescent oligos
- ◆ Taqman probes
- ◆ Molecular beacon
- ◆ Oligo pool & microarray

Custom Peptide Synthesis

- ◆ Purities from desalt to 98%
- ◆ Acetylation/Amidation
- ◆ Phosphorylated peptides
- ◆ Fluorescein/Biotin labeled peptides
- ◆ Specialty peptides with unnatural amino acids
- ◆ Cyclic peptides
- ◆ KLH/BSA/OVA Conjugation
- ◆ Multiple Antigenic Peptides
- ◆ Peptide nucleic acid (PNA)

Echo® Acoustic LIQUID HANDLING
for GENOMICS



Reduce Library Prep Costs 100-Fold

Echo® Liquid Handlers enable library preparation in low microliter volumes for a range of sequencing methods. Dramatically reduce reagent costs, conserve samples, and eliminate steps – all while improving library quality.

Echo acoustic liquid handling allows...

- ▶ 100-fold reduction of library prep reaction volumes
- ▶ 30-fold reduction of sample pooling turnaround time
- ▶ Increased sample throughput
- ▶ Automation of workflow to easily prepare thousands of samples
- ▶ Improved accuracy of results

Comparison of Liquid Handling Methods*

	Manual Pipetting	Echo® Liquid Handler
Amount of DNA	50 ng	0.06 – 2.0 ng
DNA volume (Rxn)	25 µL	200 nL
Library prep volume (Rxn)	25 µL	300 nL
Total volume	50 µL	0.5 µL
Reactions per kit	96	9600
Cost per reaction	\$72.91	\$0.73

For more information, visit www.labcyte.com/sequencing.

* Low-Cost, High-Throughput Sequencing of DNA Assemblies Using a Highly Multiplexed Nextera Process. Shapland et al. ACS Synth. Biol., 2015

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not just another one



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OZ Biosciences revolutionizes polymer-based transfection with the design of a novel patented **C**ationic **H**ydroxylated **A**mphiphilic **M**ulti-block **P**olymer (CHAMP™ Technology).

Helix-IN™ reagent, biocompatible & biodegradable, opens up new possibilities for addressing issues of classical transfection technologies.

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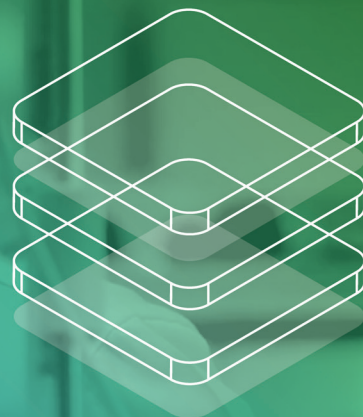


Engineered Cells

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[Synthego.com/cells](https://synthego.com/cells)



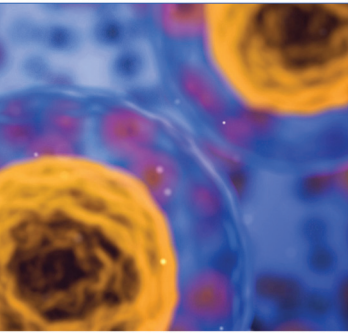
2018 SCIENTIFIC CONFERENCES

Presenting the most significant research on cancer etiology, prevention, diagnosis, and treatment



12th Biennial Ovarian Cancer Research Symposium

Conference Cochair: Frances R. Balkwill,
Mary L. (Nora) Disis, Pamela S. Ohashi, and
Elizabeth M. Swisher
September 13-15, 2018 | Seattle, WA




Pancreatic Cancer: Advances in Science and Clinical Care

Conference Cochair: Ronald M. Evans,
Manuel Hidalgo, Steven D. Leach,
Gloria M. Petersen, and Brian M. Wolpin
September 21-24, 2018 | Boston, MA



Second AACR International Conference on Translational Cancer Medicine

Conference Cochair: Carlos L. Arteaga,
Carlos Gil M. Ferreira, and Gabriel A. Rabinovich
September 27-29, 2018 | São Paulo, Brazil

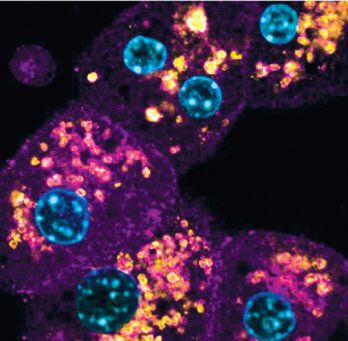


Intestinal Stem Cells and Colon Cancer: Biology to Therapy

Conference Cochair: Anil K. Rustgi, Johanna Bendell,
Hans Clevers, Christina Curtis, and Owen Sansom
September 27-30, 2018 | Washington, DC

Metabolism and Cancer

Conference Cochair: Ralph J. Deberardinis, Tak W. Mak,
Joshua D. Rabinowitz, and M. Celeste Simon
September 28-October 1, 2018 | New York, NY



Fourth CRI-CIMT-EATI-AACR International Cancer Immunotherapy Conference: Translating Science into Survival

Conference Cochair: Nina Bhardwaj, Christoph
Huber, Elizabeth M. Jaffee, and Guido Kroemer
September 30-October 3, 2018 | New York, NY

EACR-AACR-ISCR Conference: The Cutting Edge of Contemporary Cancer Research

Conference Cochair: Richard M. Marais,
Eli Pikarsky, and Robert A. Weinberg
October 9-11, 2018 | Jerusalem, Israel

30th Anniversary AACR Special Conference Convergence: Artificial Intelligence, Big Data and Prediction in Cancer

Conference Cochair: Phillip A. Sharp
and William C. Hahn
October 14-17, 2018 | Newport, RI

11th AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved

Conference Cochair: Ivis Febus-Sampayo,
Laura Fejerman, Scarlett Lin Gomez,
Augusto C. Ochoa, and Brian M. Rivers
November 2-5, 2018 | New Orleans, LA

EORTC-NCI-AACR Molecular Targets and Cancer Therapeutics Symposium

Scientific Committee Cochair: Charles Swanton,
James L. Gulley, and Antoni Ribas
November 13-16, 2018 | Dublin, Ireland

AACR-KCA Joint Conference on Precision Medicine in Solid Tumors

Program Committee Cochair: Tae-You Kim
and Charles L. Sawyers
November 15-17, 2018 | Seoul, South Korea

Tumor Immunology and Immunotherapy

Conference Cochair: James P. Allison,
Lisa M. Coussens, Ira Mellman, and Drew M. Pardoll
November 27-30, 2018 | Miami Beach, FL

Innovation and Biomarkers in Cancer Drug Development: A Joint Meeting Presented By EORTC, NCI, EMA, and AACR

Organizing Committee Chair: Denis A. Lacombe
November 29-30, 2018 | Brussels, Belgium

Targeting PI3K/mTOR Signaling

Conference Cochair: Lewis C. Cantley,
David M. Sabatini, and Jean J. Zhao
November 30-December 3, 2018 | Boston, MA

Learn more and register at
[AACR.org/Calendar](https://www.aacr.org/Calendar)

AACR American Association
for Cancer Research®
FINDING CURES TOGETHER®

GRAND BIMSB OPENING SYMPO- SIUM

BIMSB

VENUE: LUISENSTR. 58/59
POSTER RECEPTION: HANNOVERSCHER STR. 28

11TH **BERLIN LATE
SUMMER MEETING**
OCTOBER 25 – 27, 2018
**COMPUTATIONAL AND EXPERIMENTAL
MOLECULAR BIOLOGY MEET**

CONFIRMED SPEAKERS

Ido Amit
Weizmann Institute of Science, Rehovot, Israel

Hans Clevers
Hubrecht Institute, Utrecht, the Netherlands

Patrick Cramer
MPI for Biophysical Chemistry, Göttingen, Germany

Claude Desplan
NYU Biology, New York, USA

Amanda Fisher
MRC LMS, London, UK

Eileen Furlong
EMBL, Heidelberg, Germany

Edith Heard
Institut Curie, Paris, France

Jürgen Knoblich
IMBA, Vienna, Austria

Ruth Lehmann
NYU School of Medicine, New York, USA

Mike Levine
Princeton University, Princeton, USA

Peter Lichter
DKFZ, Heidelberg, Germany

Christiane Nüsslein-Volhard
MPI for Developmental Biology, Tübingen, Germany

Lior Pachter
Caltech, Pasadena, USA

Bing Ren
UCSD School of Medicine, San Diego, USA

Phil Sharp
MIT, Cambridge, USA

Charles Swanton
The Francis Crick Institute, London, UK

SCIENTIFIC COMMITTEE

all BIMSB Group Leaders

CONTACT
Irena Perko Radulovic
irena.perkoradulovic@mdc-berlin.de
+49 30 9406 3034

Verena Maier
verena.maier@mdc-berlin.de
+49 30 9406 3076

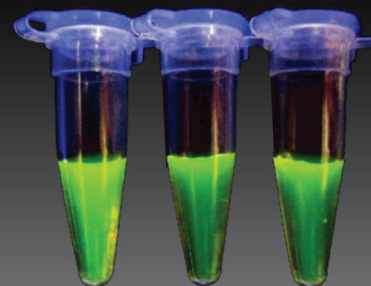
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MEDICAL SYSTEMS BIOLOGY



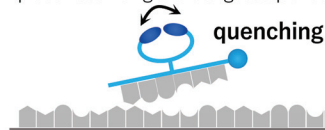
Eprobe® / Eprimer™

Novel fluorescent probe for SNP genotyping / somatic mutation detection



- A DNA-based probe which emits fluorescence when specifically binding to a complementary strand (Fig.1).
- Thiazole orange, one of the available fluorophores used by Eprobe increases melting temperature (T_m) of the probe by approx. 10°C.
- Fluorescence emitted by Eprobe can be detected using a filter for SYBR® Green I. *SYBR is a registered trademark of Molecular Probes, Inc.

Eprobe not binding to the target sequence



Eprobe binding to the target sequence



Figure 1. Fluorescence emission mechanism of Eprobe

High resolution SNP detection with Eprobe

- Melting curve analysis after asymmetric PCR with Eprobe can detect genotype of SNP (Fig.2).
- Increased T_m of the Eprobe enables a shorter probe design and a clearer distinction of single nucleotide substitution.
- Predesigned Eprobes targeting SNP for ADH1B (rs1229984), ADRB2 (rs1042713), ALDH2 (rs671), FTO (rs9939609), UCP1 (rs1800592) and others are available.

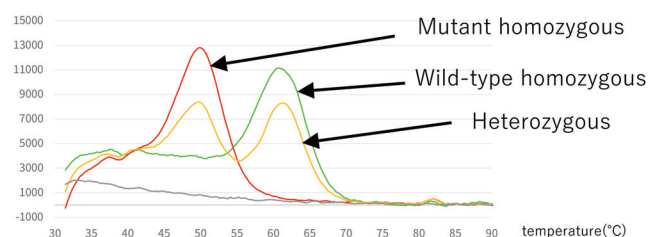


Figure 2. Predesigned Eprobe for IL28B (rs8099917).

Highly sensitive somatic mutation detection

- Highly sensitive detection of somatic mutations (down to 0.1%) can be achieved (Fig.3) by suppression of PCR amplification of wild-type alleles by Eprobe (PCR clamping).

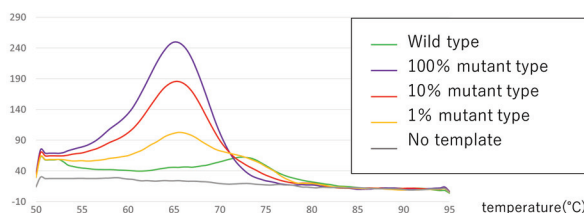


Figure 3. Predesigned Eprobe for G12D in the KRAS gene.

Pricing and ordering information

Product	Fluorophore	Quantity	List price
Eprobe Modification: 3' Spacer C3.	Thiazole Orange	1.5 nmol	¥19,000 ¥38,000
		3.0 nmol	¥30,000 ¥60,000
		5.0 nmol	¥45,000 ¥90,000
		10.0 nmol	¥70,000 ¥140,000
	Thiazole Pink	1.5 nmol	¥45,000
		3.0 nmol	¥70,000
		5.0 nmol	¥110,000
		10.0 nmol	¥170,000

- Excitation/Emission wave length (nm): Thiazole Orange: 510/530, Thiazole Pink: 570/590.
- Purification: HPLC, Shipping format: dry.
- Shipping charge: 11,000 JPY/ shipment.

Product	Fluorophore	Quantity	List price
Eprimer 3' unmodified: Extension from the 3' end is possible.	Thiazole Orange	1.5 nmol	¥19,000 ¥38,000
		3.0 nmol	¥30,000 ¥60,000
		5.0 nmol	¥45,000 ¥90,000
		10.0 nmol	¥70,000 ¥140,000
	Thiazole Pink	1.5 nmol	¥45,000
		3.0 nmol	¥70,000
		5.0 nmol	¥110,000
		10.0 nmol	¥170,000

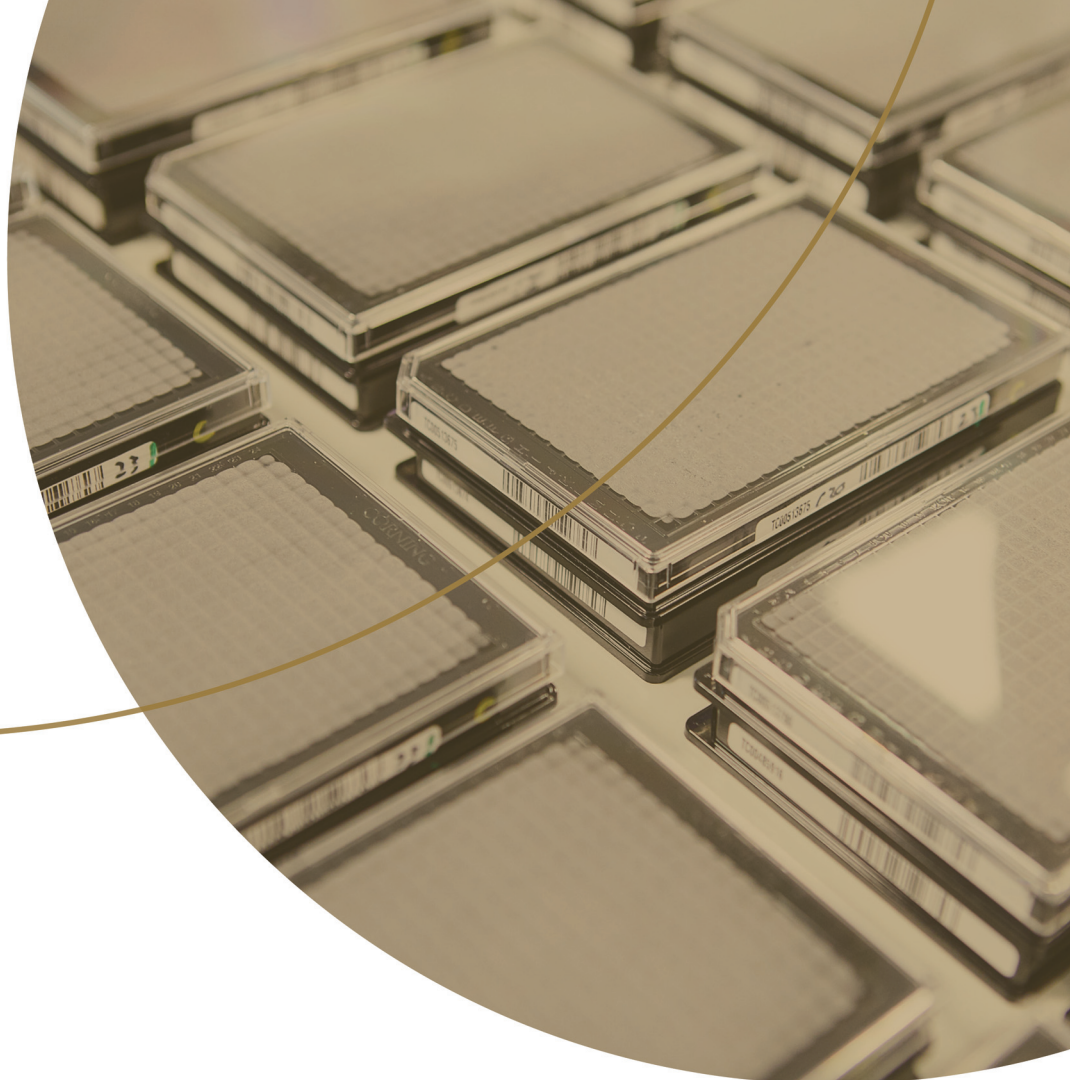
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