Contribution of HiPep Laboratories in a chapter One-Bead-One-Compound Strategies

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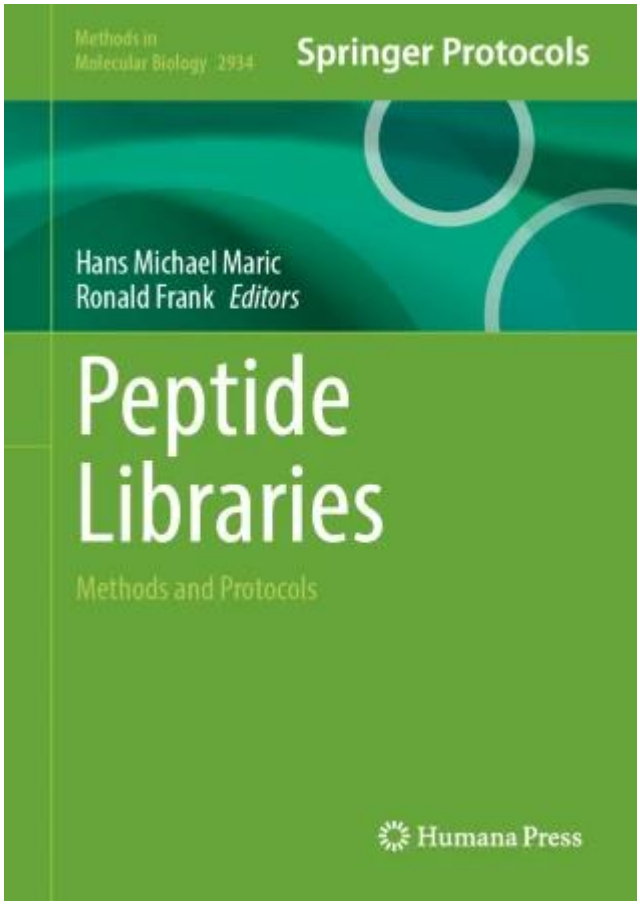

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Peptide Libraries Methods and Protocols Book Jul 2025 Hard cove book JPY 25739
This volume provides a collection of novel and emerging methods for the generation and application of peptide libraries. Hans Michael Maric, Ronald Frank in Methods in Molecular Biology

Editors and Affiliations
Biotechnology and Biophysics, University of Würzburg, Würzburg, Germany : Hans Michael Maric
AIMS Scientific Products GmbH, Berlin, Germany : Ronald Frank
Overview
Includes cutting-edge methods and protocols
Provides step-by-step detail essential for reproducible results
Contains key notes and implementation advice from the experts
Part of the book series: Methods in Molecular Biology (MIMB, volume 2934)

About this book : This volume provides a collection of novel and emerging methods for the generation and application of peptide libraries. Chapter focus on methods and techniques highlighting new avenues for library screening. Written in the Methods in Molecular Biology series format, chapters outline strategies and overview their area or describe specific applications of the method including an introduction, the necessary materials, step-by-step, readily reproducible laboratory and computational protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, Peptide Libraries: Methods and Protocols aims to be comprehensive guide for researchers in the field.

Keywords
Oral Bioavailability
Enhanced Cell Permeability
non-continuous Antibody Epitopes
Covalent Peptide Inhibitors
One-Bead-One-Compound Strategies

Nature protocol
https://experiments.springernature.com/
Springer protocol
https://www.springernature.com/jp/librarians/products/databases-solutions/springerprotocols

Construction of Cyclic Peptide-libraries Immobilized on Gel-type Supports for Screening towards Discovery of Interacting Peptides

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Key Words : Cyclic peptide library, Drug discovery, Mass spectrometry, One-Peptide-on-One-Bead, Peptide vehicle, Cell Targeting, Sequence analysis, Mass spectrometry

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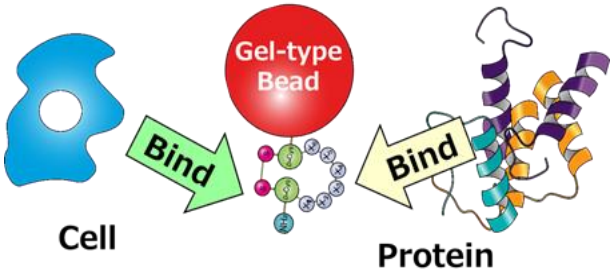
2, Materials

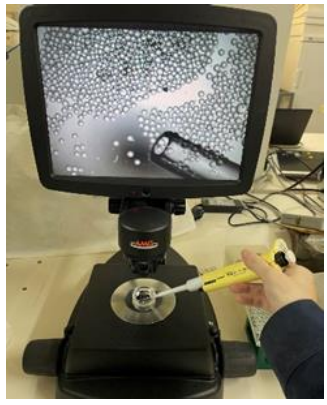
2.1 Construction of on-bead libraries by the solid-phase peptide syntheses
2.2 Analytical instruments
2.3 Liberation of peptides from OPOB gel bead
2.4 Purification and fractionation of liberated peptides from OPOB gel bead
2.5 Bioassays for screening
2.6 Screening with cells
2.7 Peptide Vehicle construction
2.8 Preparation of affinity columns

3. Methods

Standard solid phase peptide synthesis following the Fmoc-strategy is applied in a simultaneous multiple manner (see 2.1, Fig.) using for example an apparatus such as the PetiSyzer® in a manual mode. Before coupling reactions at positions of diversity, peptidyl resins are equally divided into as many reactors as the number of different building blocks applied. Use for each acylation the double-coupling mode. After completion of the coupling reactions, combine all resin parts in a larger bottle. Repeat these operations for all diversity positions in the library.

3.1 Construction of on-bead libraries with 24 building blocks (CP24OB) by the Split & Combine method
3.2 Construction of the Library with 12 Building Blocks (diversity about 3 million)
3.3 Liberation of peptide from beads by NTCB reaction for sequence determination
3.4 Liberation of peptides from a single bead using CNBr for sequence determination
3.5 On-Bead Protein-Screening
3.6 Cell Screening
3.7 Construction of peptide-vehicles
3.8 Target Protein purification using affinity columns





Picking up one bead by aspiration using a micropipette and observation by a digital microscope (EVOS® System, Advanced Microscopy Group Inc., WA, USA)