



HiPep Laboratories Web Information

Product information

1. **PepTenChip®**, the next-generation biochip (biological measurement, testing/diagnosis)
2. **PepTenCam PTC-FD15**, a detector for biochips
3. Telomere visualization probe
4. Multiple simultaneous chemical derivatizer **AHST-16**
5. Highly efficient condensing agent **COMU®** & **PyOxim®** etc



Contract research, various services

Design/synthesis, contract manufacturing of pyrrole/imidazole/polyamide (PIPA)
Quantitative analysis of residual organic substances and organic solvents, amino acid chiral analysis

Technical Notes

Clinical application of biochip
OPOB search library, cyclic peptide beads/peptide vehicles
Gene regulation/drug discovery and visualization of specific genes using PIPA, a compound that recognizes double-stranded DNA sequence-specifically
Simple and rapid amino acid analysis

List of Products and WEB contents

- ① Peptide microarray PepTenChip® system; fluorescence detector, PepTenCam; libraries of capturing molecules, various surface modified substrates, incubation cassettes.
- ② Equipment: Various small-sized multiple simultaneous operation devices (PetiSyzer®); chemical derivatizer, AHST-16; Various columns for analyses/prep-separation
- ③ Reagents: Amino acid derivatives, Polymer supports for solid phase synthesis, Non-proteinogenic amino acid "Mimosine", various libraries
- ④ Drug discovery: OPOB, bead-libraries
- ⑤ Angiogenic peptide (AGP) and its conjugates for regenerative medicine
- ⑥ Gene expression controlling drug candidate, industrial production for PIPA
- ⑦ Contract based service: chemical synthesis of peptides, PIPA, PNA, conjugates, etc.
- ⑧ Contract analyses: amino acid composition/ chiral analyses / MALDI-TOF-MS
- ⑨ Other research support tools, equipment, reagents and consumables

PDF document download URL: <https://hipep.com/?p=3106>
You can also watch the video:
<https://www.youtube.com/c/HipepJp/featured>

PepTenChip® System: Biodetection technology with novel principles, disease-marker-independent, gives objective diagnostics

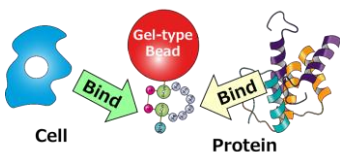


The 4 key technologies for PepTenChip® system have been completed: *de novo* designed labeled structured peptides as capture molecules; amorphous carbon, novel chip substrates; array technology; a detector for on-site use/maintenance free, PepTenCam. Most attempts for the protein-chip development have been failed and withdrew, due to the sensitivity and reproducibility by immobilization, instead solution assays such as ELISA were the mainstream. The PepTenChip® system does not involve detection of specific molecules in a 1:1 manner, but its detection principle is different (PAT: JP, US, EU) and unique!



Products
Information

OPOB : Discovery tools, high quality one cyclic peptide immobilized on one gel-type bead + sequencing technologies



Instead of chip-plates, peptides are immobilized on gel-type beads, one compound on one bead, ca. 80 pico mol peptide/bead

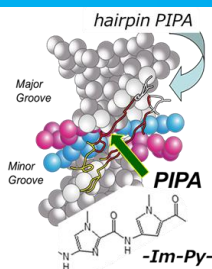
P/N : CP240B, diversity 24⁶ = ca 200 million: 19 natural & 5 non-proteogenic amino acids, cyclic with *D*-cysteines

P/N : CP12FD: Immobilized peptides focusing on drug-likeness and allowing rapid sequencing (PAT.P), **diversity = 3 million** overcoming limitations in ribosomal system such as displays



Contract Synthesis

PIPA: Polyamides with Pyrrole and Imidazole as major building unites, novel gene control drug candidates, sequence specific binding to dsDNA



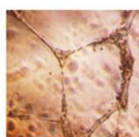
Middle sized drugs such as peptide, designable & difficult to prepare, although HiPep established: Assembly, Purification and QC.

PIPA blocks binding of transcription factors inhibiting gene expression, can control expression of gene. Peptide Vehicle (THL, 55, 4091, 2014) DDS and DNA-modification alkylation of the target DNA. DNA visualization by labelled PIPAs
No-toxicities have been found, 3-4 weeks passed through urine (~100%)
Target diseases: not possible by small molecules or antibodies



Gene control by PIPAs

AGP for regenerative medicine : Peptides exhibiting angiogenic and cell-adhesion properties and their bioconjugates, longer lasting AGP for transplantation



Application to transplantation, engraftment/healing promotion, licensing



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