

## 270-ISMS20 Innovative Synthesis Technology for the Substances of Peptide Therapeutics

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One of the challenges for peptide therapeutics is to provide high quality and lower-cost peptides to patients. We have developed an innovative and practical peptide synthetic technology of Molecular Hiving™ (MH) to deliver the drug substances of peptides efficiently, which was compared with solid phase peptide synthesis (SPPS) technology. Through our MH technology, the high-quality active pharmaceutical ingredients (APIs) of peptide therapeutics were synthesized. The actual synthetic examples of commercially available peptide drugs will be reported with MH technology. The MH technology clearly reduced the impurities of the crude products and contributed to provide the higher synthetic yield of the final APIs. The total amount of the solvents used for MH and SPPS was also analyzed and compared. With MH technology lower volume of total solvents was used to synthesize APIs. That showed the cost-effectiveness of MH technology, the other advantage of the peptide synthesis. This new technology can be applied to the synthesis of the substances of peptide therapeutics in the market, either on-patented or already off-patented, as well as still under development.