1.2 Technical Progress on Peptide Toxins and Bioregulators

There has been rapid scientific progress in the following areas: identification, synthesis, modification and large-scale production of biologically active peptides.

In the past ten years, techniques for the identification of peptides, earlier considered as exceptional, have now become routine. Central to these techniques is high pressure liquid chromatography (HPLC). Without this technique it would not have been possible to isolate and identify bioregulators that exist in nanogram or picogram quantities in tissues.

The chemical synthesis of peptides has become automated. Solid-phase peptide synthesis based on the Merrifield technique is now available on a variety of commercial instruments. More recently, commercial instruments for the large-scale production of peptides have become available. Large-scale production of biologically active peptides (toxins and bioregulators) can be done by solid-phase peptide synthesis, enzymatic synthesis, or by recombinant DNA techniques. While each of these techniques has advantages and disadvantages, the choice of technique will, of course, depend on the particular peptide to be mass produced.