

[33]; calcitonin [32]; endorphins [31]; glucagon [29]; thymosin-alpha 1 [28]; secretin [27]; and motilin [22]. These peptides have been made by chemical synthesis.

Naturally occurring small peptides being studied, with amino acid residues in brackets, are: dynorphin [17]; somatostatin [14]; bombesin [14]; melanocyte-stimulating hormone [13]; neurotensin [13]; angiotensin I [10]; bradykinin [9]; vasopressin [9]; oxytocin [9]; angiotensin II [8]; angiotensin III [7]; enkephalins [5]; and thyrotropin-releasing hormone [3].

The brain and the gastrointestinal tract contain numerous peptides which exert a variety of endocrine, central nervous system, behavioural, and peripheral actions. Such powerful biological actions indicate that these compounds are a new class of neurotransmitters. Some of these peptides have been isolated from brain extracts and have been characterized, whereas others have only been localized in the brain by radioimmunoassay and/or bioassay. They can be found in the tissues of a number of mammalian as well as nonmammalian species, and their structures usually are very similar.

The characterized peptides are easily replicated by synthesis. In some cases this has led to the design of analogues with specific biological activities, such as prolonged duration of action or antagonistic behaviour. They are presently used as tools to