# DDAVP (Desmopressin) and Solid Phase Peptide Synthesis

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*Published online 21 April 2008 in Wiley InterScience (www.interscience.wiley.com). DOI 10.1002/bip.20936*

Forty years ago I had a good chance to stay for 9 months (1967–1968) in the laboratory of the inventor of the revolutionary solid-phase peptide synthesis (SP synthesis), the late Prof. R.B. Merrifield, at the Rockefeller University, New York. The stay was extremely interesting for me. SP synthesis had not been generally accepted during those years. Besides getting acquainted with the art of the SP synthesis, I witnessed a number of heated and most interesting as well as instructive discussions between supporters and opponents of the method. The cause of the controversy clearly rooted in an excessive optimism of the first communications on SP synthesis. The method opened the way for the preparation of peptides for many researches, but not for all of them. At the 19th European Peptide Symposium in Greece, R.B. Merrifield said: "You must know how to do it properly."

After homecoming, my group at the Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences started introducing SP synthesis into laboratory and production practice. We proceeded with a considerable caution, as the Institute's climate was ill disposed toward SP synthesis at that time. Our aim was an SP synthesis of DDAVP (laboratory abbreviation for [1-mercaptopropionic acid, 8-D-arginine]vasopressin, main commercial name Desmopressin), as an easier, shorter, and more economical alternative to the solution synthesis.[1] We have fulfilled this task and have carefully compared DDAVP products obtained by both methods. They were found quite identical and undistinguishable from each other. This finding was very important for us at that time. The SP synthesis of DDAVP was later realized in practice and in years 1976–1999, the compound was produced using this method in the then Czechoslovakia.

DDAVP has found rather broad application in medical practice as a homeostatic and hemostatic drug, in clinical diagnostics and in thousands of biochemical and pharmacological studies. Scientific literature contains under the key words "DDAVP" and "Desmopressin" well over 3000 quotations so far. The SP synthesis of DDAVP can thus be, for good reasons, held as an important practical application of the Merrifield method.

## REFERENCE

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