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### The use of Solid-Phase synthesis in the development of Thiol-Containing peptides and Peptide-Based drugs

#### Abstract:

Sulphur plays an important role in many biological processes and therefore many pharmaceuticals contain this atom. Therefore, the development of methods for the synthesis of thiol-containing compounds/building blocks and the introduction of sulfur atom into peptide sequences is a useful approach towards the development of thiol-containing peptide-based drugs. To this end: (a) we developed easy and efficient methods for the synthesis of mercapto acids, aminothiols, thiol-containing amino acid derivatives and building blocks of interest, and (b) we developed various solid-phase synthesis methodologies (step-by-step and convergent synthesis methods), using trityl-type resins, for the introduction of the synthesized thiol-containing compounds into peptide chains, the replacement of the amide bond with the methylenethio isoster, the synthesis of thiol-containing peptoids, and the synthesis of 2-benzothiazolyl-containing compounds and peptides.

#### Biography

**Spyridon Mourtas** was born in 1976 in Athens. He received his PhD in Organic Chemistry from the University of Patras, Greece in 2008. He has gained extensive experience in chemical/pharmaceutical industry and as a postdoctoral researcher in several national/international projects. Currently, he is an Asst. Prof. at the University of Patras, Greece. His interests are focused on organic synthesis and organic synthesis methodologies (including solid-phase organic synthesis) of small molecules, peptides, modified peptides, bioconjugates, etc. with potential biological interest. A major part of his work is related to the chemistry of thiol-containing compounds and their further utilization in the development of pharmaceuticals and nano-based pharmaceuticals. So far, he has published more than 45 papers in reputed journals. H-index 25.