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Personal Data:

Name: Alfonso Carotenuto
Date of Birth: June, 28, 1969 Pompei
Citizenship: Italian
Marital Status: Married

Present Position:

Associate Professor in Medicinal Chemistry, Department of Pharmacy, University of Naples "Federico II".

Present Mailing

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Educations and Research training:

Present Associate Professor in Medicinal Chemistry at Dept. of Pharmacy, University of Napoli "Federico II".

1999 – 2003 Research scientist in Medicinal Chemistry at Dept. of Pharmaceutical Science, University of Salerno.

November 1997 University of Nijmegen, NSR Center for Molecular Structure, Nijmegen (The Netherlands).
April 1999 Post-doctoral Research Associate, Research Advisor: Prof. C.W. Hilbers.

1993 – 1997 Ph. D. student at the Department of "Sostanze Naturali" University of Napoli "Federico II".
Doctoral thesis on Natural Substances of Pharmacological Interest.

March 1993 Degree in Chemistry *cum laude*, University of Napoli "Federico II"

Teaching Experience:

Present Teacher in Medicinal Chemistry, Drug Analysis

1999 – 2003 Lessons on Drug Analysis

1999 – 2004 Training graduate students and directing their research work (Conformational analysis of peptide and peptido-mimetics of pharmaceutical interest).

Research Interests:

The research activity of Prof. Alfonso Carotenuto is devoted to the study by spectroscopic (mainly solution NMR) and computational techniques of the conformation-activity relationships of pharmacologically active molecules principally peptides. The main goal of these studies is the rational design of peptides, peptidomimetics and non peptide compounds with improved pharmacodynamics and or pharmacokinetics properties compared to the starting compounds. Furthermore, prof. Carotenuto carries out macromolecule-ligands interaction studies by ligand-based or macromolecule-based NMR techniques. An intriguing aspect of these studies is that they can be performed with macromolecule positioned on the cytosolic membrane of living cells.

Prof. Alfonso Carotenuto is author of more than 70 scientific publications in peer reviewed international journals.

Some of the research fields are the following:

i) Conformational analysis and design of neuropeptides binding to G-Protein Coupled Receptors (GPCR). In particular, the study is aimed to the development of novel analogues of urotensin-II, somatostatin, opioid and melanocortin peptides.

ii) Development of glycopeptide epitopes able to detect specific autoantibodies in sera of patients affected by multiple sclerosis. The studies allowed to discover a peptide named CSF114(Glc) with high affinity and selectivity towards those autoantibodies.

iii) Discovery of novel antimicrobial peptides or peptidomimetics. In this research field, Prof. Carotenuto's developed novel analogues of the temporins (natural antimicrobial peptides), and of the alpha-MSH hormone.

iv) Design and DNA interaction of novel antitumor agents. This research allowed to discover new dihydrothieno-naphtho-quinone derivatives with high cytotoxic activity in cell lines resistant to doxorubicin. In particular, using NMR and docking techniques, it was possible to determine details on the drug/DNA interactions.