Maura Marinozzi

Professore associato
CHIM08- Chimica Farmaceutica

Temi di ricerca:

Disegno e sintesi di modulatori a struttura non-steroidea del recettore nucleare FXR (Farnesoid X Receptor), un interessante target terapeutico per il trattamento di patologie correlate ad alterazioni del metabolismo glico-lipidico.

Disegno e sintesi di modulatori a struttura non-steroidea del recettore nucleare DAF-12.

Messa a punto di metodologie sintetiche innovative, con particolare riferimento a quelle che coinvolgono l'utilizzo di diazocomposti, anche non convenzionali ,come alchil diazofosfonati, -diazosolfonati e -diazopiruvati.

Messa a punto di procedure sintetiche eco-compatibili per la sintesi di building blocks di natura eterociclica.

Valutazione dell'attività nutraceutica di matrici alimentari.

Incarichi:

Delegato Erasmus di Dipartimento.

Attività didattica:

Chimica Farmaceutica II (9 CFU) per il Corso di Laurea Magistrale in CTF.

Analisi di Medicinali II (3+3L CFU) per il Corso di Laurea Magistrale in Farmacia.

Pubblicazioni:

1. M. Marinozzi, M. Serpi, L.Amori, M. Gavilan Diaz, G. Costantino, U. Meyer, P. J. Flor, F. Gasparini, R. Heckendorn, R. Kuhn, G. Giorgi, M. Brunsgaard Hermit, C. Thomsen, R. Pellicciari. "Synthesis and Preliminary Pharmacological Evaluation of the Four Stereoisomers of (2*S*)-2-(2'-Phosphono-3'-phenylcyclopropyl) glycine, the First Class of 3'-Substituted *trans*$_{C1'-2'}$-2-(2'-Phosphonocyclopropyl)glycines" *Bioorg. Med. Chem*. **15**, 3161-3170, (2007).

2. R. Pellicciari, M. Marinozzi, A. Macchiarulo, M.C. Fulco, J. Gafarova, M. Serpi, G. Giorgi, S. Nielsen, C. Thomsen. "Synthesis, Molecular modeling Studies and Preliminary Pharmacological Characterization of All

the Eight Possibile 2-(2'-Sulfonocyclopropyl)glycine Stereoisomers, as Conformationally Constrained *L*-Homocysteic Acid Analogs" *J. Med. Chem.* **50**, 4630-4641, (2007).

3. R. Pellicciari, F. Venturoni, D. Bellocchi, A. Carotti, M. Marinozzi, A. Macchiarulo, L. Amori, R. Schwarcz. "Sequence Variants in Kynurenine Aminotransferse (KAT II) Orthologs Determine Different Potencies of the Inhibitor *S*-ESBA" *ChemMedChem* **3**, 1199-1202, (2008).

4. L. Amori, H.-Q. Wu, M. Marinozzi, R. Pellicciari, P. Guidetti, R. Schwarcz. " Specific Inhibition of Kynurenate Synthesis Enhances Extracellular Dopamine Levels in the Rodent Striatum" *Neuroscience* **159,** 196-203, (2009).

5. R. Filosa, M. C. Fulco, M. Marinozzi, N. Giacchè, A. Macchiarulo, A. Peduto, A. Massa, P. De Caprariis, C. Thomsen, C. T. Christoffersen, R. Pellicciari "Design, Synthesis and Biological Evaluation of Novel Bicyclo[1.1.1]pentane-based ω-Acidic amino Acids as Glutamate Receptors Ligands" *Bioorg. Med. Chem*. **17**, 242-250, (2009).

6. M. Marinozzi, M. C. Fulco, L. Amori, M. Fiumi, R. Pellicciari " Exploring the metal-catalyzed reaction of furans with alkyl α-diazomethanesulfonate and α-diazomethanephosphonate: synthesis of ω-acyl-substituted sulfono- and phosphonobutadienes" *Tetrahedron* **65**, 7092-7098, (2009).

7. M. C. Fulco, M. Marinozzi, B. Çaliskan Ergün, R. Sardella, B. Natalini, R. Pellicciari "Synthesis and chromatographic resolution of conformationally constrained analogues of homotaurine" *Tetrahedron* **65**, 8756-8762, (2009).

8. B. Natalini, R. Sardella, N. Giacchè, S. Palmiotto, E. Camaioni, M. Marinozzi, A. Macchiarulo, R. Pellicciari "Chiral Ligand-Exchange separation and resolution of extremely rigid glutamate analogs: 1-aminospiro[2.2]pentyl-1,4-dicarboxylic acid" *Anal. Bioanal. Chem.* **397**, 1997-2011, (2010).

9. B. Natalini, R. Sardella, A. Macchiarulo, M. Marinozzi, E. Camaioni, R. Pellicciari "Mechanistic aspects and applications of chiral ligand-exchange chromatography" in Advances in Chromatography, E. Grushka, N. Grinberg, Eds. Taylor & Francis, Boca Raton FL, vol. 49, 71-134, (2011).

10. A. Gioiello, F. Venturoni, M. Marinozzi, B. Natalini, R. Pellicciari "Exploring the Synthetic Versatility of the Lewis Acid Induced Decomposition Reaction of α-Diazo-β-hydroxy Esters. The case of Ethyl Diazo(3-hydroxy-2-oxo-2,3-dihydro-1H-indol-3-yl)acetate" *J. Org. Chem*. **76**, 7431-7437, (2011).

11. M. Marinozzi, A. Carotti, E. Sansone, A. Macchiarulo, E. Rosatelli, R. Sardella, B. Natalini, G. Rizzo, L. Adorini, D. Passeri, F. De Franco, M. Pruzanki, R. Pellicciari "Pyrazole [3,4-*e*][1,4]thiazepin-7-one Derivatives as a Novel Class of Farnesoid X Receptor (FXR) Agonists" *Bioorg. Med. Chem*. **20**, 3429-3445, (2012).

12. R. Sardella, M. Marinozzi, F. Ianni, A. Lisanti, B. Natalini "Simultaneous diastereo- and enantioseparation of farnesoid X receptor (FXR) agonists with a quinine carbamate-based chiral stationary phase" *Anal. Bioanal. Chem.* **405**, 847-862, (2013).

13. M. Marinozzi, A. Carotti, R. Sardella, F. Buonerba, F. Ianni, B. Natalini, G. Rizzo, D. Passeri, R. Pellicciari "Asymmetric Synthesis of the Four Diastereoisomers of a Novel Non-Steroidal Farnesoid X Receptor (FXR) Agonist: Role of the Chirality on the Biological Activity" *Bioorg. Med. Chem*., **21**, 3780-3789, (2013).

14. R. Sardella, A. Lisanti, M. Marinozzi, F. Ianni, B. Natalini, G. P. Blanch, M. L. Ruiz del Castillo "Combined monodimensional chromatographic approaches to monitor the presence of *D*-amino acids in cheese" *Food Control* **34**, 478-487, (2013).

15. B. Natalini, R. Sardella. A. Gioiello, F. Ianni, A. Di Michele, M. Marinozzi "Determination of bile salt critical micellization concentration on the road to drug discovery" *J. Pharmaceut. Biomed*. **87**, 62-81, (2014).

16. R. Sardella, F. Ianni, A. Lisanti, M. Marinozzi, S. Scorzoni, B. Natalini "The effect of mobile phase composition in the enantioseparation of pharmaceutically relevant compounds with polysaccharide-based stationary phases" *Biomed. Chrom*. **28**, 159-167, (2014).

17. M. Marinozzi, G. Marcelli, A. Carotti, B. Natalini " One-pot, telescoped synthesis of *N*-aryl-5-aminopyrazoles from anilines in environmentally benign conditions" *RCS Adv*. **14**, 7919-7923, (2014).

Comunicazioni:

1. M. C. Fulco, R. Sardella, M. Marinozzi, B. Ergun Caliskan, B. Natalini, R. Pellicciari " Synthesis and chromatographic enantioresolution of conformationally constrained homotaurine analogues" Atti del XXIII Congresso Nazionale della Società Chimica Italiana, Sorrento, FAR-PO-95, (2009).
2. F. Venturoni, A. Gioiello, A. Khamidullina, M. Marinozzi, R. Pellicciari " On route to biologically acive compounds: $BF_3 \cdot Et_2O$-induced decomposition of α-diazo-β-hydroxy-β-aryl esters in acetonitrile" International Symposium on Advances in Synthetic and Medicinal Chemistry, Kiev (Ukraine), P068, (2009).
3. B. Natalini, R. Sardella, A. Macchiarulo, M. Marinozzi, N. Giacchè, R. Pellicciari " Molecular modelling studies in the chiral ligand-exchange chromatographyof amino acids" RDPA 2009 (Recent Developments in Pharmaceutical Analysis) 13th International Meeting, Milan (Italy), OC05, (2009).
4. B. Natalini, R. Sardella, N. Giacchè, F. Ianni, E. Camaioni, A. Macchiarulo, M. Marinozzi, R. Pellicciari "Chiral- Ligand-Exchange Separation and Resolution of Extremely Rigid Glutamate Analogs: 1-Aminospiro[2.2]pentyl-1,4-dicarboxylic Acids" 16th International Symposium on Separation Science, Rome (Italy), P11, (2010).
5. M. Marinozzi, E. Sansone, E. Rosatelli, A. Carotti, A. Macchiarulo, G. Rizzo, L. Adorini, R. Pellicciari "Pyrazole[3,4-e][1,4]thiazepin-7-one Derivatives as a Novel Class of Farnesoid X Receptor (FXR) Agonists" XXIV Congresso Nazionale della Società Chimica Italiana, Lecce, FAR-PO-50, (2011).
6. A. Carotti, A. Gioiello, A. Macchiarulo, M. Marinozzi, P. Liscio, P. Sabbatini, G. Rizzo, L. Adorini, R. Pellicciari "Targeting the FXR Nuclear Receptor through a Virtual Screening Approach" XXIV Congresso Nazionale della Società Chimica Italiana, Lecce, FAR-PO-12, (2011).
7. S. Scorzoni, M. Marinozzi, F. Ianni, R. Sardella, B. Natalini "Determination of Pyruvic Acid Content of Three Italian Onion Varieties Cultivated in Cannara (Umbria)" VII Meeting "Nuove Prospettive in Chimica Farmaceutica" (NPCF7), Savignano (Italy), 2013
8. G. Marcelli, A. Carotti, B. Natalini, M. Marinozzi "Environmentally Friendly, Sequential, One-pot Synthesis of *N*-Aryl-5-aminopyrazoles from anilines" 13° Sigma-Aldrich Young Chemists Symposium (SAYCS), Riccione (Italy), 2013.

Conferenze su invito

"Manipulation of the kynurenine pathway: in search for kynurenine aminotransferase II (KAT II) inhibitors, valuable tools for the biochemical and functional characterization of this enzyme", XXIII Congresso Nazionale della Società Chimica Italiana, Sorrento, 2009.