Emidio Camaioni

Temi di ricerca

I principali temi di ricerca riguardano la progettazione e sintesi di nuovi composti eterociclici e sullo studio della loro attività biologica come inibitori enzimatici, antitumorali e agenti neuroprotettivi.

- Progettazione e sintesi di nuovi inibitori degli enzimi PARP (poliADP-ribosio polimerasi) quali *target* per lo sviluppo potenziali agenti neuro protettivi o antitumorali.
- Progettazione e sintesi di nuovi inibitori degli enzimi TNKS (tanchirasi) come modulatori della via canonica di Wnt.
- Progettazione e sintesi di nuovi inibitori di enzimi coinvolti nel catabolismo del triptofano quali *target* per lo sviluppo di potenziali agenti antitumorali o neuroprotettivi.

Principali collaborazioni scientifiche: Prof. R. Pellicciari, TES Pharma (Corciano); Prof. Alberto Chiarugi, Prof. Guido Mannaioni, UNIFI; Prof. Giulio Lupidi, UNICAM; Prof. Stuart Aaronson, Dr. Stefania Asciutti, Mount Sinai (New York); Dr. Herwig Schuler, Karolinska Institute (Stoccolma).

Attività didattica

A.A. 2009-2013. Titolare del Corso di Analisi dei Farmaci II (8 CFU; 32 ore di lezioni frontali e 60 ore di esercitazioni di laboratorio a posto singolo, per turno) per il Corso di Laurea Specialistica in Chimica e Tecnologie Farmaceutiche.

A.A. 2013-2014. Titolare del Corso di Analisi Chimico-Farmaceutica II (8 CFU; 32 ore di lezioni frontali e 60 ore di esercitazioni di laboratorio a posto singolo, per turno) per il Corso di Laurea in Chimica e Tecnologie Farmaceutiche.

Pubblicazioni

1. Liscio P, Carotti A, Asciutti S, Karlberg T, Bellocchi D, Llacuna L, Macchiarulo A, Aaronson SA, Schüler H, Pellicciari R, Camaioni E. Design, Synthesis, Crystallographic Studies and Preliminary Biological Appraisal of New Substituted Triazolo[4,3-b]pyridazin-8-amine Derivatives as Tankyrase Inhibitors. J. Med. Chem. 2014 in press: 10.1021/jm401356t.

2. Antonyan A, De A, Vitali LA, Pettinari R, Marchetti F, Gigliobianco MR, Pettinari C, Camaioni E, Lupidi G. Evaluation of (arene)Ru(II) complexes of curcumin as inhibitors of dipeptidyl peptidase IV. Biochimie. 2014 in press: 10.1016/j.biochi.2013.11.021.

3. Liscio P, Camaioni E, Carotti A, Pellicciari R, Macchiarulo A. From polypharmacology to target specificity: the case of PARP inhibitors. Curr Top Med Chem. 2013;13(23):2939-54.

4. Antolin AA, Carotti A, Nuti R, Hakkaya A, Camaioni E, Mestres J, Pellicciari R, Macchiarulo A. Exploring the effect of PARP-1 flexibility in docking studies. J Mol Graph Model. 2013;45:192-201.

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7. Moroni F, Cozzi A, Chiarugi A, Formentini L, Camaioni E, Pellegrini-Giampietro DE, Chen Y, Liang S, Zaleska MM, Gonzales C, Wood A, Pellicciari R. Long-lasting neuroprotection and neurological improvement in stroke models with new, potent and brain permeable inhibitors of poly(ADP-ribose) polymerase. Br J Pharmacol. 2012;165(5):1487-500.

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Abstract a congressi (comunicazioni orali e poster)

1. P. Liscio, A. Carotti, S. Asciutti, D. Bellocchi, M. Ferri, M. Gallo, D. Uras, A. Macchiarulo, R. Pellicciari, E. Camaioni. Benzothieno[2,3-C]quinolin-6(5H)-one Derivatives as a Novel Class of Selective Tankyrase Inhibitors. XXII National Meeting on Medicinal Chemistry, Roma, September 10-13, 2013

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5. B. Natalini, R. Sardella, A. Gioiello, E. Rosatelli, F. Ianni, E. Camaioni, R. Pellicciari. Fast chromatographic determination of the unconjugated bile salt critical micellar concentration. XIV International Meeting on Recent Developments in Pharmaceutical Analysis; Pavia, Italy, September 21-24, 2011.

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series of new Thioidantoine Derivatives as Inhibitors of Indoleamine-2,3-Dioxygenase (IDO), a Novel Target for Cancer Theraphy. XXX Convegno Interregionale delle Sezioni Toscana Umbria Marche Abruzzo della Societa' Chimica Italiana, Perugia, 30 Giugno – 1 Luglio 2011.

7. R. Pellicciari, A. Gioiello, E. Camaioni, A. Macchiarulo, A. Gilbert, J. Bikker, G. Costantino, G. M. Robertson, F. Venturoni, A. Carotti, D. Bellocchi, A. Cozzi, A. Wood, C. Gonzales, M. Zaleska, J. Ellingboe, F. Moroni. HYDAMTIQ: A new, potent PARP-1 inhibitor with neuroprotective properties. 241th ACS National Meeting & Exposition 2011, Anaheim CA, USA. March 27-31, 2011.

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12. E. Camaioni. On the Way to New Antiischemic Agents: Design and Synthesis of Poly(ADP-ribosyl) polimerase (PARP-1) Inhibitors. School of Advanced Studies Chemical and Pharmaceutical Sciences, Camerino (Italy), February 24, 2010.

13. A. Macchiarulo, L. Amori, D. Bellocchi, E. Camaioni, A. Carotti, A. Chiarugi, G. Costantino, M. Marinozzi, R. Nuti,. F. Venturoni, R. Schwarcz, F. Moroni, R. Pellicciari. Exploring Ligand Recognition in the Kynurenine Pathway to Advance the Medicinal Chemistry of Kynurenines. XII Meeting of International Society for Tryptophan Research (ISTRY), Florence (Italy), July 9-11, 2009.

14. E. Camaioni, G. Pittelli, P. Liscio, R. Nuti, A. Macchiarulo, R. Sardella, A. Chiarugi, F. Moroni, R. Pellicciari. Combined Strategies Toward the Design and Synthesis of Novel Inhibitors of Indoleamine-2,3-dioxygenase (IDO). XXIII Congresso Nazionale della Società Chimica Italiana, Sorrento (Italy), July 5-10, 2009.

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English version

Emidio Camaioni is an Associate Professor in Medicinal Chemistry at the Department of Pharmaceutical Sciences, University of Perugia.

Teaching activities

From 2008 to 2012 he was teaching a practical course of Analisi dei Farmaci II (Drug Analysis, 8 credits) for the degree in Chimica e Tecnologia Farmaceutiche (Chemistry and Drug Technologies), Faculty of Pharmacy.

At the moment he is teaching a practical course of Analisi dei Chimico-Farmaceutica II (Drug Analysis, 8 credits) for the degree in Chimica e Tecnologia Farmaceutiche (Chemistry and Drug Technologies).

Research fields

His research interests spanned in various medicinal chemistry fields. Indeed, his research activities are, particularly, focused on design and synthesis of biological active heterocyclic derivatives. More in detail: i) design and synthesis of novel inhibitors of the TNKSs as modulator of the Wnt-signalling pathway; ii) design and synthesis of novel inhibitors of the PARP family of proteins as neuroprotecting and/or anticancer agents; v) design and synthesis of novel enzyme inhibitors involved in the catabolism of the tryptophan (kynurenine pathway).

Scientific collaborations

Prof. R. Pellicciari, TES Pharma (Corciano, Italy); Prof. Alberto Chiarugi, Prof. Guido Mannaioni, UNIFI (Firenze, Italy); Prof. Giulio Lupidi, UNICAM (Camerino, Italy); Prof. Stuart Aaronson, Dr. Stefania Asciutti, Mount Sinai (New York, USA); Dr. Herwig Schuler, Karolinska Institute (Stoccolma, Sweeden).

List of papers

1. Liscio P, Carotti A, Asciutti S, Karlberg T, Bellocchi D, Llacuna L, Macchiarulo A, Aaronson SA, Schüler H, Pellicciari R, Camaioni E. Design, Synthesis, Crystallographic Studies and Preliminary Biological Appraisal of New Substituted Triazolo[4,3-b]pyridazin-8-amine Derivatives as Tankyrase Inhibitors. J. Med. Chem. 2014 in press: 10.1021/jm401356t.

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List of abstracts

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