



# Università degli Studi di Ferrara

INFORMAZIONI  
PERSONALI

Anna Rizzi

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POSIZIONE PER LA QUALE SI  
CONCORRE

ESPERIENZA  
PROFESSIONALE

RTD, Dept. Medical Sciences, Section of Pharmacology, University of Ferrara (2 May 2012 - 1 May 2016).

Research Associate on a collaborative project between Prof G. Calo and Allergan financed by Allergan (January 2009 – November 2011).

Research Associate on a collaborative project between Prof D. Regoli and Prof D., Kapusta financed by the National Institutes of Health (collaborative grant NHLBI HL-71212) (January 2004 – December 2008).

Research Associate for Institute of Biotechnology Research S.r.l. (I.R.B.), Altavilla Vicentina (Vicenza), Italy. (June 2003 – December 2003)

Research Fellow (assegnista). Department of Experimental and Clinical Medicine, Section of Pharmacology, University of Ferrara, Italy. (May 1999 – May 2003)

PhD Student in “Cellular and Molecular Pharmacology” Tutor: Prof. Domenico Regoli. Department of Experimental and Clinical Medicine, Section of Pharmacology, University of Ferrara, Italy (1995 – 1998).

Research Fellow at the UCSF. Prof. N. Bennett, Department of Physiology, University of San Francisco, USA. (Borsa di studio assegnata dal Consiglio Nazionale delle Ricerche nell’ambito di: International exchange “Short-term mobility” CNR Prot. 055366) (July – September 1997).

Research Fellow. Department de Pharmacologie, Faculte' de Medecine, Universite' de Sherbrooke (Quebec) Canada. (June - December 1994).

Associate Professorship – in February 2014 Dr A Rizzi has been qualified for associate professorship by the pharmacology national ASN committee (Bando 2012 – 05/G1 Farmacologia Clinica e Farmacognosia).

Chief Executive Officer spin off UFPeptides s.r.l. (January 2007- December 2012)

#### ISTRUZIONE E FORMAZIONE

19 January 1999, PhD in “Cellular and Molecular Pharmacology” Title of the thesis: “Pharmacological characterisation of kinin receptors in different species”. Tutor: Prof. D Regoli

March 1995, Esame di stato per l’abilitazione alla professione di farmacista

Degree in Pharmaceutical Chemistry and Technology, Faculty of Pharmacy, 16 March 1994, University of Ferrara, Italy. Score: 110/110 cum laude. Experimental thesis: “GABA release from different guinea pig brain areas in vitro: effect of 5-HT”.

Maturity Degree, July 1986, Liceo Scientifico Statale "P. Paleocapa", Rovigo, Italy. Score 50/60.

#### COMPETENZE PERSONALI

Lingua madre Italiano

Inglese ottimo livello sia scritto che parlato

Anna Rizzi has a large experience in research with a broad background in the pharmacology of peptidergic systems. Since 1996 A. Rizzi has published 93 papers (number of citations 4047, H number 35) focused on peptide receptor pharmacology in particular in the fields of kinins, tachykinins, endothelins, opioids, nociceptin/orphanin FQ, urotensin II and, more recently, neuropeptide S. Several of these papers, particularly in the field of nociceptin/orphanin FQ and neuropeptide S, have been highly quoted placing them in the top 1% within their field: according to essential science indicators this demonstrated that the work summarized in those papers was highly influential and made a significant impact among scientists working in the field. These scientific results allowed us to establish a series of collaborations with other group of research at local (Remo Guerrini on peptide medicinal chemistry, Michele Morari on neurochemistry studies, Paolo Zamboni and Gioacchino Mollica, pharmacological characterization of GPCR in human tissues), at national (Maurizio Massi and Roberto Ciccocioppo, Camerino, food intake studies; Lia Di Giannuario, Roma, pain and morphine tolerance), European (Dave Lambert, Leicester UK, cellular pharmacology studies; Ulrich Zeihofer, Erlangen DE, spinal analgesia), and internationals level (Jeff Mogil, Montreal, Canada, N/OFQ and stress induced analgesia; Dan Kapusta, New Orleans, US, N/OFQ and renal functions). In addition, Anna Rizzi substantially contributed to the development of several industrial projects performed in collaboration with Menarini, Italfarmaco, the Institute of Biotechnology Research, NiKem, Zealand Pharma, Aventis, Sanofi, Schering, Rottapharm, GlaxoSmithKline, Allergan and Helsin.

ULTERIORI INFORMAZIONI

Allego al presente documento CV completo di pubblicazioni, grants ed attività didattica

ALLEGATI

Il sottoscritto acconsente, ai sensi del D.Lgs. 30/06/2003 n.196, al trattamento dei propri dati personali.

Il sottoscritto acconsente alla pubblicazione del presente curriculum vitae sul sito dell'Università di Ferrara.

FIRMA

A handwritten signature consisting of two parts: "Anna" on the left and "Ritti" on the right, written in black ink.

## Rizzi Anna

### Publications

Dati bibliometrici

93 articoli scientifici di cui 21 come primo autore.

4047 citazioni

H index 35

### Full Papers

1. Gobeil F, Pheng L H, Badini I, Nguyenle X K, Pizard A, **Rizzi A**, Blouin D, and Regoli D. Receptors for kinins in the human isolated umbilical vein. *Br J Pharmacol* 118 (2): 289-294, 1996.
2. Bogoni G, **Rizzi A**, Calò G, Campobasso C, D'Orleans-Juste P, and Regoli D. Characterization of endothelin receptors in the human umbilical artery and vein. *Br J Pharmacol* 119: 1600-1604, 1996.
3. Regoli D, Calò G, **Rizzi A**, Bogoni G, Gobeil F, Campobasso C, Mollica G, and Beani L. Bradykinin receptors and receptor ligands (with special emphasis on vascular receptors). *Regul Peptides* 65: 83-89, 1996.
4. Calò G, **Rizzi A**, Bogoni G, Neugebauer V, Salvadori S, Guerrini R, Bianchi C, and Regoli D. The mouse vas deferens: a pharmacological preparation sensitive to nociceptin. *Eur J Pharmacol* 311 (1): R3-5, 1996.
5. Calò G, **Rizzi A**, Traina L, and Regoli D. Pharmacological characterization of a vasopressin V1 receptor in the isolated human gastric artery. *Life Sci* 60: PL63-68, 1997.
6. Regoli D, **Rizzi A**, Calò G, Nsa Allogho S, and Gobeil F. B1 and B2 kinin receptors in various species. *Immunopharmacol* 36: 143-147, 1997.
7. **Rizzi A**, Gobeil F, Bogoni G, Calò G, Campobasso C, Inamura N, and Regoli D. Antagonistic effects of FR 173657 on human, pig, rabbit and guinea pig kinin receptors. *Can J Physiol Pharmacol* 75: 601-608, 1997.
8. **Rizzi A**, Gobeil F, Calò G, Inamura N, and Regoli D. FR 173657, a new potent and selective non peptide kinin B2 receptor antagonist: an in vitro study. *Hypertension* 29: 951-956, 1997.
9. Calò G, **Rizzi A**, Bodin M, Neugebauer W, Salvadori S, Guerrini R, Bianchi C, and Regoli D. Pharmacological characterization of nociceptin receptor: an in vitro study. *Can J Physiol Pharmacol* 75 (6): 713-8, 1997.
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11. Regoli D, **Rizzi A**, and Calò G. Pharmacology of the kallikrein-kinin system. *Pharmacol Res* 35 (6): 513-5, 1997.
12. **Rizzi A**, Calò G, Amadesi S, and Regoli D. Kinin B1 and B2 receptors in pig vessels: characterization of two monoreceptor systems. *N S Arch Pharmacol* 356: 662-670, 1997.
13. Gessi S, **Rizzi A**, Calò G, Agnello G, Jorizzo G, Mollica G, Borea P A, and Regoli D. Human vascular kinin receptors of the B2 type characterized by radioligand binding. *Br J Pharmacol* 122 (7): 1450-4, 1997.
14. **Rizzi A**, Calò G, Battistini B, and Regoli D. Contractile activity of endothelins and their precursors in human umbilical artery and vein: identification of distinct endothelin-converting enzyme activities. *J Cardiovasc Pharmacol* 31 (1): S58-61, 1998.
15. Guerrini R, Calò G, **Rizzi A**, Bigoni R, Bianchi C, Salvadori S, and Regoli D. A new selective antagonist of the nociceptin receptor. *Br J Pharmacol* 123 (2): 163-5, 1998.
16. Calò G, Guerrini R, Bigoni R, **Rizzi A**, Bianchi C, Regoli D, and Salvadori, S. Structure-Activity Study of the Nociceptin(1-13)-NH<sub>2</sub> N-Terminal Tetrapeptide and Discovery of a Nociceptin Receptor Antagonist. *J Med Chem* 41 (18): 3360-6, 1998.
17. Regoli D, Nsa Allogho S, **Rizzi A**, and Gobeil FJ. Bradykinin receptors and their antagonists. *Eur J Pharmacol* 348 (1): 1-10, 1998.

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19. **Rizzi A**, Quaglio D, Vasquez G, Mascoli F, Amadesi S, Calò G, Regoli D, and Zamboni P. Effects of vasoactive agents in healthy and diseased saphenous veins. *J Vasc Surgery* 28: 855-861, 1998.
20. Varani K, Calò G, **Rizzi A**, Merighi S, Toth G, Guerrini R, Salvadori S, Borea PA, and Regoli D. Nociceptin receptor binding in mouse forebrain membranes: thermodynamic characteristics and structure activity relationships. *Br J Pharmacol* 125: 1485-1490, 1998.
21. Bigoni R, Giuliani S, Calò G, **Rizzi A**, Guerrini R, Salvadori S, Regoli D and Maggi CA. Characterization of nociceptin receptors in the periphery: in vitro and in vivo studies. *Naunyn Schmiedebergs Arch Pharmacol* 359(3):160-7, 1999.
22. **Rizzi A**, Trevisani M, Tognetto M, Calò G, Fabbri L, Mapp C, Guerrini R, Salvadori S, Regoli D, and Geppetti P. Nociceptin receptor activation inhibits tachykinergic non adrenergic non cholinergic contraction of guinea pig isolated bronchus. *Life Science* 64(13):PL157-63, 1999.
23. **Rizzi A**, Rizzi C, Amadesi S, Calo' G, Varani K, Inamura N, Regoli D. Pharmacological characterisation of the first non-peptide bradykinin B2 receptor agonist FR 190997: an in vitro study on human, rabbit and pig vascular B2 receptors. *Naunyn Schmiedebergs Arch Pharmacol* 360:361-7, 1999.
24. Meini S, Quartara L, **Rizzi A**, Patacchini R, Cucchi P, Giolitti A, Calò G, Regoli D, Criscuoli M, Maggi CA. MEN 11270, A novel selective constrained peptide antagonist with high affinity at the human B2 kinin receptor. *J Pharmacol Exp Ther* 289:1250-6, 1999.
25. **Rizzi A**, Bigoni R, Calò G, Guerrini R, Salvadori S, Regoli D. [Nphe(1)]nociceptin-(1-13)-NH(2) antagonizes nociceptin effects in the mouse colon. *Eur J Pharmacol* 385(2-3):R3-5, 1999.
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27. Varani K, **Rizzi A**, Calò G, Bigoni R, Toth G, Guerrini R, Gessi S, Salvadori S, Borea PA, Regoli D. Pharmacology of [Tyr1]nociceptin analogs: receptor binding and bioassay studies. *Naunyn Schmiedebergs Arch Pharmacol* 360:270-7, 1999.
28. Bigoni R, Calò G, **Rizzi A**, Guerrini R, De Risi C, Hashimoto Y, Hashiba Y, Lambert DG, and Regoli D. In vitro characterization of J-113397 a non peptide nociceptin/orphanin FQ receptor antagonist. *Naunyn Schmiedebergs Arch Pharmacol*, 361:565-8, 2000.
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34. Guerrini R, Calò G, **Rizzi A**, Bigoni R, Rizzi D, Regoli D, and Salvadori S: Structure-activity relationships of nociceptin and related peptides: comparison with dynorphin A. *Peptides* 21(7): 923-933, 2000.
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40. Regoli D, Rizzi A, Perron SI, and Gobeil F. Classification of kinin receptors. *Biol. Chem.* 382: 31-35, 2001
41. Guerrini R, Calò G, Bigoni R, Rizzi D, **Rizzi A**, Zucchini M, Varani K, Hashiba E, Lambert DG, Toth G, Borea PA, Salvadori S, and Regoli D. Structure-activity studies of the Phe4 residue of nociceptin(1-13)-NH<sub>2</sub>: identification of highly potent agonists of the nociceptin/orphanin FQ receptor. *J Med Chem*, 44 (23): 3956-3964, 2001.
42. Di Giannuario A, **Rizzi A**, Pieretti S, Guerrini R, Bertorelli R, Salvadori S, Regoli D, and Calò G. Further studies on the antinociceptive effect of [Nphe1]NC(1-13)NH<sub>2</sub> in mice. *Neurosci Lett*, 316: 25-28, 2001
43. Camarda V, **Rizzi A**, Calò G, Gendrom G, Perron S, Kostenis E, Zamboni P, Mascoli F, and Regoli D. Effects of human urotensin II in isolated vessels of various species. *NS Archives of Pharmacology*, 365: 141-149, 2002
44. Camarda V, **Rizzi A**, Calo G, Guerrini R, Salvadori S, Regoli D. Pharmacological profile of hemokinin 1: a novel member of the tachykinin family. *Life Sci* 71(4):363-370, 2002
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49. Meini S, Lecci A, Carini F, Tramontana M, Giuliani S, Maggi CA, Ricci R, Fabbri G, Anichini B, Harmat N, **Rizzi A**, Camarda V, Regoli D, Quartara L In vitro and in vivo activity of analogues of the kinin B2 receptor antagonist MEN 11270. *Can J Physiol Pharmacol* 80 (4): 293-302, 2002
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### Book Chapter

Calò G, Rizzi A, Regoli D. Pharmacology of nociceptin receptors. In Peptidergic G protein-coupled receptors: from basic research to clinical applications. IOS Press, Van Diemenstraat 94, 1013 CN Amsterdam , Netherlands. NATO Science Series. Edited by Pierangelo Geppetti, Werner Muller-Esterl, Domenico Regoli. 1999

### Society membership:

Società Italiana di Farmacologia (2000-); European Neuropeptide Club (1997-)

### Research grants

#### Grants to Anna Rizzi as PI

- 2014 - Fondo per le Necessità di base della ricerca 2014 – “Roles of NOP and NOP/MOP agonists on the activation of the sensory neurons mediate by the TRP channels” University of Ferrara, Italy.
- 1999 – “B1 and PAR-2: inducible receptors expressed by the endothelial cells of the human umbilical vein and of the microcirculation. Studies of the mechanisms of up-regulation and expression of these inducible receptors”, University of Ferrara, Italy.
- 2000 - “In vitro and in vivo studies of the effects of the human urotensin II in different species, human included”, National Council of the Research, CNR-Agenzia 2000, code CNRG00C437
- 2001 – “Role of the hemokinin, a new member of the takykinins family, in inflammatory processes: in vitro and in vivo studies”, University of Ferrara, .

In 1997, A Rizzi won a bursary from the National Council of the Research (CNR): International exchange “Short-term mobility”, CNR Prot. 055366 for her stage as Research Fellow at the UCSF in the Prof. N. Bennett laboratory, Department of Physiology, University of San Francisco, USA.

Since 1999 A Rizzi participated as co-investigators in different grants received from different institutions at local (University of Ferrara, 60% grant from 1999 to 2011), National (Cofin 1999, 2002; 2004; 2006; Firb 2001-03), European (2001 CRUI/British Council, partner prof D Lambert, Leicester, UK; 2003 Vigoni CRUI/DAAD, partner Prof H Zeilhofer, Erlangen, D) and international (2003-2008 NIH grant RO1HL71212, partner prof D Kapusta, New Orleans, US; 2003-2004

International Association for the Study of Pain, partner prof D Lambert, Leicester, UK) levels.

FAR (Research Funds of the University of Ferrara) 1996: pharmacology of vasoactive peptides, 1y, collaborator (PI D Regoli)  
FAR 1997: pharmacology of vasoactive peptides 1y collaborator (PI D Regoli).  
FAR 1998: pharmacology of vasoactive peptides 1y collaborator (PI D Regoli)  
FAR 1999: pharmacology of N/OFQ 1y collaborator (PI G Calo)  
PRIN 1999 9905091432\_001: pharmacology of the N/OFQ - NOP receptor system 2y collaborator (PI D Regoli)  
FAR 2000: pharmacology of N/OFQ 1y collaborator (PI G Calo)  
FAR 2001: pharmacology of N/OFQ 1y collaborator (PI G Calo)  
CRUI/British Council IT/UK 2001: cellular actions of NOP ligands (partner DG Lambert, Leicester, UK) 2y collaborator (PI G Calo)  
FP6-2002-MOBILITY-7: Nociceptin/orphanin FQ-NOP receptor signalling and mood regulation: behavioural, pharmacological and neurochemical studies (MOODNOP) 2y collaborator (PI G Calo, PI of the host institution)  
FAR 2002: pharmacology of N/OFQ 1y collaborator (PI G Calo)  
PRIN 2002 2002058325\_001: pharmacology and neurobiology of NOP ligands, 2y collaborator (PI D Regoli)  
FIRB 2001 RBAU01CCSE\_001: novel ligands for the NOP receptor, 3y collaborator (PI D Regoli)  
NIH grant 2003 RO1HL71212: cardiovascular and renal effects of NOP ligands, 5y collaborator (partner and PI D Kapusta, New Orleans, US)  
FAR 2003: pharmacology of N/OFQ, 1y collaborator (PI G Calo)  
FAR 2004: pharmacology of N/OFQ and NPS, 1y collaborator (PI G Calo)  
PRIN 2004 2004055475\_001: pharmacology and biological actions of NOP ligands, 2y collaborator (PI D Regoli)  
FAR 2005: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
FAR 2006: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
PRIN 2006: Il sistema neuropeptide S - recettore NPSR: identificazione di nuovi ligandi e studio delle attivita' biologiche in vitro ed in vivo, 2 y, collaborator (PI G Calo)  
FAR 2007: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
IT/HU 2007: novel ligands for opioid and NOP receptors (partner S Behnje, Szeged, HU) 3y PI.  
FAR 2008: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
FAR 2009: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
Neuroscience grant (Fondazione Compagnia S. Paolo) 2009: pharmacology and neurobiology of NPS 3y collaborator (PI of the UniFE research unit G Calo)  
FAR 2010: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
FIRB 2010 RBFR109SBM\_001: mixed MOP/NOP agonists as innovative analgesics 3y collaborator (PI C Trapella)  
FAR 2011: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
FAR 2012: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)  
FAR 2013-2014: pharmacology of N/OFQ and NPS 1y collaborator (PI G Calo)

## Technology tranfer

During the period 1995-2000 A Rizzi contributed, as D Regoli and G calo collaborator, to the development of several industrial research projects in collaborations with the following companies: Italfarmaco (1994/95) novel antagonists of Y1 and B1 receptors, Hoest (1996) novel KATP blockers, Menarini (1997/98) B2 receptor antagonists, Schering-plough (1999/2000) NOP receptor agonists, Aventis (2000) UT receptor ligands; Zealand Pharma (2001) pharmacological characterization of ZP120, GSK (2006) central effects of U-II, Allergan (2007-09) peripheral actions of NOP ligands, Helsinn (2009) pharmacological characterization of Netupitant, Allergan (2010/11) studies on retargeted toxins. Helsinn (2012) pharmacological characterization of proNetupitant. Helsinn (2013/14) pharmacological profile of pronetupitant. Allergan (2013/14) further studies on retargeted toxins.

From January 2007 to December 2012 A Rizzi was the Chief Executive Officer of the spin off UFPeptides s.r.l.

UFPeptides provides products and services to pharma companies. UFPeptides activities are focused to the identification and development of molecules interacting with G-protein coupled receptors; these proteins regulate several important biological functions and are implicated in a large variety of human diseases. UFPeptides collaborated with pharma companies for the development of research projects (2004-09), performed a proprietary research project partially funded by a PRRIITT grant (FSE funds, 2006-07), and made an agreement with two companies for the preclinical development of the agonopin (NOP agonists for urinary incontinence) project (2006). For this project an exclusive option license agreement has been signed by UFPeptides and Recordati in 2009 and a license agreement in 2011. The Phase I study of the agonopin project started in May 2014.

## **Teaching Activities**

Incarichi Ufficiali di insegnamento

Cultore della materia Settore BIO/14, Farmacologia dal 1999 ad oggi  
Corso di Farmacologia, Corso di Laurea per Dietista, Facoltà di Medicina e Chirurgia, Università di Ferrara da Ottobre 2012 ad oggi.

Corso di Farmacologia, Corso di Laurea per Igienisti Dentali, Facoltà di Medicina e Chirurgia, Università di Ferrara da Ottobre 2012 ad oggi.

Esercitazioni per corsi ufficiali. Corsi di Farmacologia per studenti di Biotecnologie (Docente incaricato: Dr Silvia Zucchini). Università di Ferrara. Dal 2008 ad oggi.

Lezioni per corsi ufficiali. Corsi di Farmacologia generale e speciale per studenti di Odontoiatria, Igiene Dentale, e Dietistica (Docente incaricato: Dr Girolamo Calò). Università di Ferrara. Dal 2008 al 2012.

Partecipazione a commissioni di esami di profitto. Esami di Farmacologia generale e speciale per studenti di Odontoiatria (Docente incaricato: Dr Girolamo Calò). Università di Ferrara. Dal 2008 ad oggi.

Membro della commissione di Laurea in Medicina e Chirurgia e controrelatore di tesi da Marzo 2015. Università di Ferrara.

Supervisione attivita' di ricerca per tesi di laurea. Corsi di Laurea in Farmacia,Chimica e Tecnologie Farmaceutiche, e Scienze Biologiche, Odontoiatria. Università di Ferrara. Dal 1999 ad oggi.

Supervisione attivita' di ricerca dei dottorandi. Dottorato di Ricerca in Farmacologia Cellulare e Molecolare. Università di Ferrara. Dal 2000 ad oggi.