

2. Personal contributions

2.1. Awards

- 1- Servier Young Investigator Award in Pharmacology at the XIVth World Congress of Pharmacology (International Union of Pharmacology IUPHAR) held in San Francisco, CA, 7-12 Jul 2002.
- 2- 2nd prize for best communication at the annual meeting of the Belgian Association for Cancer Research (BACR) 2003.
- 3- EDRO fellowship (attributed on a competitive basis) to present my work at the Second Workshop of the European Society for Therapeutic Radiology and Oncology (ESTRO) on Biology in Radiation Oncology held in Nijmegen, the Netherlands, 1-3 Jun 2003.

2.2. Patent

- 1- Use of endothelin-1 antagonists for improving cancer therapy. Sonveaux P, Dessy C, Feron O.

2.3. Original papers

- 1- Hsp90 ensures the transition from the early Ca²⁺-dependent to the late phosphorylation-dependent activation of the endothelial nitric-oxide synthase in the vascular endothelial growth factor-exposed endothelial cells. Brouet A, Sonveaux P, Dessy C, Balligand J-L, Feron O. *J. Biol. Chem.* 2001 Aug 31; 276(35):32663-9. (JCR IF2001: 7.258)
- 2- Hsp90 and caveolin are key targets for the proangiogenic nitric oxide-mediated effects of statins. Sonveaux P, Brouet A, Dessy C, Moniotte S, Balligand J-L, Feron O. *Circ. Res.* 2001 Nov 9; 89:866-873. (JCR IF2001: 9.213)
- 3- Insulin increases the sensitivity of tumors to irradiation: involvement of an increase in tumor oxygenation mediated by a nitric oxide dependent decrease of the tumor cells oxygen consumption. Jordan BF, Grégoire V, Demeure RJ, Sonveaux P, Feron O, O'Hara J, Vanhulle VP, Delzenne N, Gallez B. *Cancer Res.* 2002 Jun 15; 62(12):3555-3561. (JCR IF2002: 8.318)
- 4- Modulation of the tumor vasculature functionality by ionizing radiation accounts for tumor radio-sensitization and promotes gene delivery. Sonveaux P, Dessy C, Brouet A, Jordan BF, Grégoire V, Gallez B, Balligand J-L, Feron O. *FASEB J.* 2002 Oct 18 10.1096/fj.02-0487fje (online) and *FASEB J.* 2002 Dec 1;16(14):1979-81. (JCR IF2002: 7.252)
- 5- Irradiation-induced angiogenesis through the up-regulation of the NO pathway: implications for tumor radiotherapy. Sonveaux P, Brouet A, Havaux X, Grégoire V, Dessy C, Balligand J-L, Feron O. *Cancer Res.* 2003 Mar 1;63(5):1012-1019. (JCR IF2002: 8.318)
- 6- Nitric-oxide-mediated increase in tumor blood flow and oxygenation of tumors implanted in muscles stimulated by electric pulses. Jordan BF, Sonveaux P, Feron O, Grégoire V, Beghein N, Gallez B. *Int. J. Radiat. Oncol.* 2003 Mar 15;55(4):1066-1073. (JCR IF2002: 3.756)

- 7- Nitric oxide as radiosensitizer: evidence for an intrinsic role in addition to its effect on oxygen delivery and consumption. Jordan BF, Sonveaux P, Feron O, Grégoire V, Beghein N, Gallez B. *Int. J. Cancer* (JCR IF2002: 4.056) (*in press*).
- 8- Endothelin-1 is a critical mediator of myogenic tone in tumor arterioles: implications for cancer treatment. Sonveaux P, Dessy C, Martinive P, Havaux X, Jordan BF, Gallez B, Grégoire V, Balligand JL, Feron O. *Cancer Res.* (JCR IF2002: 8.318) (*in revision*)
- 9- Caveolin-1 is critical for VEGF-induced ischemic hindlimb reperfusion and NO-mediated angiogenesis. Sonveaux P, Martinive P, Batova S, Daneau G, Pelat M, Ghisdal P, Dessy C, Balligand JL, Feron O. *Circ. Res.* (JCR IF2002: 9.694) (*in revision*)
- 10- Irradiation-induced tumor selectivity of liposome-based gene therapy targeting Akt activation. Sonveaux P, Brouet A, Jordan BF, Grégoire V, Gallez B, Balligand JL, Dessy C, Feron O. (*in preparation*).
- 11- Caveolin-1 is required to maintain arterial blood pressure and arterial baroreflex: caveolin-1 friend or foe? Pelat M, Dessy C, Sonveaux P, Dessager JP, Balligand JL, Feron O. (*in preparation*)

2.4. Oral communications

(* denotes communications as first and presenting author)

- 1- Hsp90 binding is a prerequisite for Ser 1177 eNOS phosphorylation by Akt upon VEGF stimulation. Brouet A, Sonveaux P, Dessy C, Balligand J-L, Feron O. American Heart Association (AHA) Scientific Sessions 2001, Anaheim, CA, 11-14 Nov 2001. *Circ.* 2001 Oct 23;104(17):II-105. (JCR IF2001: 10.517)
- 2- Nitric oxide mediated pharmacological and physiological modulations of the tumor blood flow and oxygenation. Jordan BF, Grégoire V, Demeure R, Sonveaux P, Feron O, O'Hara J, Vanhulle V, Delzenne N, Gallez B. Tenth meeting of the Benelux EPR Society, Brussels, Belgium, 15 May 2002, session II.
- 3- NO-mediated modulations of tumor blood flow and oxygenation. Jordan BF, Grégoire V, Sonveaux P, Feron O, Gallez B. 30th Annual Meeting of the International Society on Oxygen Transport to Tissue (ISOTT), Manchester, UK, 24-28 Aug 2002, *Proceedings* p10.
- 4- Effect of insulin on tumor oxygenation, perfusion, and radiation response. Jordan BF, Grégoire V, Demeure RJ, Sonveaux P, Feron O, O'Hara J, Gallez B. 32nd Annual Meeting of the European Society for Radiation Biology (ESRB), Liège, Belgium, 4-7 Sep 2002.
- 5- *Irradiation-induced angiogenesis through the up-regulation of the NO pathway: implications for tumor radiotherapy. Sonveaux P, Havaux X, Grégoire V, Feron O. Meeting of the Belgian Association for Cancer Research (BACR-ABEC-BVSK), Leuven, Belgium, 18 Jan 2003. **2nd prize for best communication.** *Acta Clin. Belg.* 2003;58(2):126-147. (JCR IF2002 : 0.287)
- 6- *Modulation of the tumor vasculature functionality by ionizing radiation accounts for tumor radiosensitization and promotes gene delivery. Sonveaux P, Dessy C, Brouet A, Jordan BF, Grégoire V, Gallez B, Balligand J-L, Feron O. Second International Conference on Translational Research and Pre-Clinical Strategies in Clinical Radio-oncology (ICTR2003), Lugano, Switzerland, 16-19 Mar 2003. *Int. J. Radiat. Oncol.* 2003 Feb 1;55(2):505 (JCR IF2002: 3.756)
- 7- *Irradiation-induced angiogenesis through the up-regulation of the NO pathway: implications for tumor radiotherapy. Sonveaux P, Brouet A, Havaux X, Grégoire V, Feron O. Annual Meeting of the

Belgian Society of Fundamental and Clinical Physiology and Pharmacology (SBPPFC), Diepenbeek, Belgium, 10 May 2003.

- 8- Regulation of NO production in endothelial cells lining tumor blood vessels: from the dissection of the VEGF signaling pathway to therapeutic applications. Brouet A, Sonveaux P, Dessy C, Balligand J-L, Feron O. Annual Meeting of the Belgian Society of Fundamental and Clinical Physiology and Pharmacology (SBPPFC), Diepenbeek, Belgium, 10 May 2003.
- 9- *Irradiation-induced angiogenesis through the up-regulation of the NO pathway: implications for tumor radiotherapy. Sonveaux P, Grégoire V, Feron O. Second Workshop of the European Society for Therapeutic Radiology and Oncology (ESTRO) on Biology in Radiation Oncology, Nijmegen, the Netherlands, 1-3 Jun 2003. *Radiother. Oncol.* 2003 Jun; 67 (suppl. 1):S12-13 (JCR IF2002: 2.838)
- 10- *Identification of intrinsic and induced differential reactivities of tumor arterioles: new bases for therapeutic strategies targeting the tumor vascularization. Sonveaux P, Dessy C, Brouet A, Jordan BF, Grégoire V, Gallez B, Balligand J-L, Feron O. 94th annual meeting of the American Association for Cancer Research (AACR), Washington DC, WA, 11-14 Jul 2003. *Proc. Amer. Assoc. Cancer Res.* (1st ed.) 2003;44:2955 and *Proc. Amer. Assoc. Cancer Res.* (2nd ed.) 2003;44:R2955
- 11- Nitric oxide-mediated ischemic hindlimb reperfusion and VEGF-induced angiogenesis are defective in caveolin-1 gene-disrupted mice. Sonveaux P, Martinive P, Dessy C, Pelat M, Balligand J-L, Feron O. American Heart Association (AHA) Scientific Sessions 2003, Orlando, FL, 9-12 Nov 2003.

2.5. Poster communications

(* denotes communications as first and presenting author)

- 1- Hsp90 acts as a scaffold for the Akt-induced phosphorylation of eNOS: the formation of this multiprotein complex is a prerequisite to the VEGF-stimulated NO-mediated angiogenesis. Feron O, Brouet A, Sonveaux P, Dessy C. Keystone Symposium on Angiogenesis in Cancer and Other Diseases: From Genes to Function to Therapy, Banff, Canada, 8-13 Feb 2002. *Proceedings* p. 125 Abstract #204.
- 2- *From large-conductance to resistance vessels upon tumor co-option: new bases for therapeutic strategies targeting the tumor vascularization. Sonveaux P, Dessy C, Feron O. Keystone Symposium on Angiogenesis in Cancer and Other Diseases: From Genes to Function to Therapy, Banff, Canada, 8-13 Feb 2002. *Proceedings* p. 151 Abstract #334.
- 3- Hsp90 acts as a scaffold for the Akt-induced phosphorylation of eNOS: the formation of this heterocomplex is a prerequisite to VEGF-stimulated angiogenesis. Brouet, A, Sonveaux P, Dessy C, Balligand J-L, Feron O. Annual Meeting of the Société Belge de Physiologie et de Pharmacologie Fondamentales et Cliniques, Liège, Belgium, 2 Mar 2002.
- 4- *From large-conductance to resistance vessels upon tumor co-option: new bases for therapeutic strategies targeting the tumor vascularization. Sonveaux P, Dessy C, Feron O. Société Belge de Physiologie et de Pharmacologie Fondamentales et Cliniques, Liège, Belgium, 2 Mar 2002. *Fund. Clin. Pharmacol.* 2002 Jun; 16(3):245-246. (JCR IF2002 : 1.052)
- 5- *Modulation of the tumor vasculature functionality by ionizing radiation accounts for tumor radio-sensitization and promotes gene delivery. Sonveaux P, Dessy C, Brouet A, Jordan BF, Grégoire V, Gallez B, Balligand J-L, Feron O. Tenth meeting of the Benelux EPR Society, Brussels, Belgium, 15 May 2002.

- 6- *From large-conductance to resistance vessels upon tumor co-option: new bases for therapeutic strategies targeting the tumor vascularization. Sonveaux P, Dessy C, Feron O. XIVth World Congress of Pharmacology (International Union of Pharmacology IUPHAR), San Francisco, CA, 7-12 Jul 2002.
- 7- *Modulation of the tumor vasculature functionality by ionizing radiations accounts for tumor radio-sensitization and promotes gene delivery. Sonveaux P, Dessy C, Brouet A, Jordan BF, Grégoire V, Gallez B, Balligand J-L, Feron O. Meeting of the Belgian Association for Cancer Research (BACR-ABEC-BVSK), Leuven, Belgium, 18 Jan 2003. *Acta Clin. Belg.* 2003;58(2):126-147. (JCR IF2002 : 0.287)
- 8- Modulation of NO production in endothelial cells of tumor vessels: from the dissection of the VEGF signaling pathway to anti-angiogenic applications. Brouet A, Sonveaux P, Dessy C, Grégoire V, Balligand J-L, Feron O. Conférence de presse et séminaires des jeunes chercheurs du Télévie, Liège, Belgium, 10 Mar 2003.
- 9- *Irradiation-induced angiogenesis through the up-regulation of the nitric oxide pathway: implications for tumor radiotherapy. Sonveaux P, Brouet A, Havaux X, Grégoire V, Dessy C, Balligand J-L, Feron O. Annual meeting of the American Association for Cancer Research (AACR), Washington DC, WA, 11-14 Jul 2003. *Proc. Amer. Assoc. Cancer Res.* (1st ed.) 2003;44:6143 and *Proc. Amer. Assoc. Cancer Res.* (2nd ed.) 2003;44:6143
- 10- NO-dependent modulations of the tumor oxygenation and nitric oxide production: correlation with tumor radiation sensitivity. Jordan BF, Beghein N, Sonveaux P, Feron O, Grégoire V, Gallez B. 11th Scientific Meeting & Exhibition of the International Society for Magnetic Resonance in Medicine (ISMRM), Toronto, Canada, 10-16 Jul 2003.
- 11- Irradiation-induced angiogenesis through the up-regulation of the nitric oxide pathway: implications for tumor radiotherapy. Sonveaux P, Dessy C, Grégoire V, Feron O. American Association for Cancer Research (AACR) Special Conference in Cancer Research: New Directions in Angiogenesis Research. Chicago, IL, 15-19 Oct 2003. *Proceedings* p. A11.
- 12- *Intrinsic and irradiation-induced tumor selectivity of liposome-based gene therapy targeting Akt activation. Sonveaux P, Brouet A, Martinive P, Feron O. Meeting of the Belgian Association for Cancer Research (BACR-ABEC-BVSK), Liège, Belgium, 24 Jan 2004. (*accepted*)
- 13- Targeting the vascular tone of tumor microarterioles with an endothelin-1 antagonist selectively modulates tumor blood flow and promotes response to treatment. Martinive P, Sonveaux P, Dessy C, Grégoire V, Feron O. Meeting of the Belgian Association for Cancer Research (BACR-ABEC-BVSK), Liège, Belgium, 24 Jan 2004. (*accepted*)
- 14- Anti-tumor effects of in vivo caveolin gene delivery are mediated through the inhibition of the proangiogenic effects of nitric oxide. Brouet A, Martinive P, Sonveaux P, Feron O. Meeting of the Belgian Association for Cancer Research (BACR-ABEC-BVSK), Liège, Belgium, 24 Jan 2004. (*accepted*)