

Nuria González Fernández.

Date and place of birth: 1976, Bilbao, Spain.

ACADEMIC EDUCATION

- Ph D 2007** Universidad Autónoma de Madrid, Spain.
Title: "The role of the chemokine CXCL12/SDF-1 on the evolution of HIV-1 tropism"
M. Sc. 2001 Molecular Biology Department, Universidad Autónoma de Madrid, Spain.
B. S. 1999 Molecular Biology. Universidad Autónoma de Madrid, Spain.

WORK AND RESEARCH EXPERIENCE

- 2007-present** Postdoctoral researcher at the Immunopathology Laboratory, Instituto de Salud Carlos III. Madrid.
2001-2007 PhD student at the Immunopathology Laboratory, Instituto de Salud Carlos III. Madrid. FPI Predoctoral Research Fellowship from the Spanish Ministry of Research and Innovation.
1999-2000 Research associate in the National Centre of Biotechnology (CNB-CSIC), Madrid. Subject: "Protein secretion mechanisms in *Streptomyces*".
1999 Research associate in the Genetic Stability Lab (CNB-CSIC), Madrid. Subject: "Recombination-dependent DNA replication".
1998-1999 Research associate in the Centre of Molecular Biology Severo Ochoa (UAM-CSIC), Madrid. Subject: "Structure and function of ribosomic proteins".
1998 Research associate in the Analytical Chemistry Department, Faculty of Chemistry, Universidad Autónoma de Madrid. Subject: "Sex determination in *Ecballium elaterium*".

TEACHING ACTIVITY

- 2013** Assistant professor of Virology at the European University of Madrid

STAYS IN RESEARCH CENTERS

- 2011** Research stay at Dr John Mascola's lab in Vaccine Research Center, National Institutes of Health (NIH). USA. 4 months.
2008 Research stay at Dr Fernando Arenzana's lab in Institute Pasteur. Paris. France. 2 weeks.
2005 Research stay at Dr Quentin Sattentau's lab in Will Dunn School of Pathology. University of Oxford, United Kingdom. 4 months.
2000 Research stay at Dr Teresa Gallart's lab in the Immunology Department. Hospital Clínico de Barcelona, Spain. 3 weeks.

PATENTS

Inventors: Alcami J, Sánchez-Palomino S, García J, González N.
Title: "Novel HIV-based recombinant viral clones and use thereof in analytical methods"

AREAS OF RESEARCH INTEREST

- Evolution of the envelope protein of HIV and interaction with CCR5 and CXCR4 receptors
- HIV-1 pathogenesis: viral entry
- Research in vaccines
- Detection and characterization of neutralizing antibodies in different cohorts of HIV-1 infected patients
- Development of systems for the determination of HIV-1 tropism
- Restriction factors
- Impact of CXCL12 production by dendritic cells in HIV infection

PARTICIPATION IN R&D&I PROJECTS

- Mechanisms of proviral latency in HIV-infected lymphocytes. Ministry of Research. 2000-2002.
- Epidemiological analysis of the resistance to HIV progression in selected populations. Ministry of Health. 2000-2012.
- Molecular analysis of the pre and post-transcriptional regulation of the chemokine SDF-1 in producing cell lines and dendritic cells and study of the interference with HIV infection. Instituto de Salud Carlos III. 2001-2003.
- Screening and characterization of the activity against HIV of natural products and pure compounds of chemical libraries. Ministry of Research. 2001-2004.
- Analysis of the regulation of the SDF-1 chemokine and its impact on HIV-1. Comunidad de Madrid. 2002-2004.
- Spanish AIDS Research Network. Ministry of Health., Instituto de Salud Carlos III. 2003-2016.
- Analysis of the induction of SDF-1 expression by viral transactivators from lymphotropic viruses. Potential role in virus-associated oncogenesis" Ministry of Research. 2004-2008.
- Validation of a second generation tropism assay and analysis of the mechanisms of resistance to Maraviroc. Pfizer. 2007-2008.
- Development, production and characterization of monoclonal antibodies and fusion proteins for the treatment of HIV infection. Ministry of Research. 2007-2008.

- Evolution genotypique et phenotypique du tropisme et recherche des mécanismes d'adaptation virale chez les sujets traités par un antagoniste de CCR5. ANRS France 2008-2010.
- Europrise: European vaccines and microbicides enterprise. European Commission. 2006-2010.
- Development of an HIV vaccine: Isolation and characterization of novel broad-neutralizing antibodies. Design of immunogens capable of generating such antibodies. Ministry of Health. 2010-2012.
- Phase I open-label trial to evaluate the safety and immunogenicity of the vaccine against HIV-1 MVA-B in chronically HIV-infected patients on antiretroviral therapy (RISVAC03). Ministry of Health. 2010-2012.
- HIV evolution under the selective pressure of IFN in vivo and in vitro. ANRS. 2011-2012.
- Characterization of broad neutralizing antibodies from Elite neutralizer patients with controlled viremia and study of its neutralizing capacity against HIV-1 founder viruses. Ministry of Health. 2012.
- Study of cellular modifications induced by HIV infection and transcriptional analysis of LTNP patients. Impact on the protection against infection and progression to AIDS. Instituto de Salud Carlos III. 2013-2016.
- Analysis of the characteristics of the founder viruses in a population of patients with early infection. Gilead. 2013-2014.
- Isolation and characterization of broadly neutralizing antibodies from patients with recent Human Immunodeficiency virus type 1 infection. Instituto de Salud Carlos III. 2014-2016.

PUBLICATIONS

- Colin P, Bénureau Y, Staropoli I, Wang Y, Gonzalez N, Alcamí J, Hartley O, Brelot A, Arenzana-Seisdedos F, Lagane B. 2013. "HIV-1 exploits CCR5 conformational heterogeneity to escape inhibition by chemokines". *Proc Natl Acad Sci U S A*. 110(23): 9475-80
- Messiaen P, De Spiegelaere W, Alcamí J, Vervisch K, Van Acker P, Verhasselt B, Meuwissen P, Calonge E, Gonzalez N, Gutierrez-Rodero F, Rodriguez-Martin C, Sermijn E, Poppe B, Vogelaers D, Verhofstede C, Vandekerckhove L. 2012. "Characterization of LEDGF/p75 Genetic Variants and Association with HIV-1 Disease Progression". *Plos One* 7(11): e50204.
- García F, Bernaldo de Quirós JC, Gómez CE, Perdiguero B, Nájera JL, Jiménez V, García-Arriaza J, Guardo AC, Pérez I, Díaz-Brito V, Conde MS, González N, Alvarez A, Alcamí J, Jiménez JL, Pich J, Arnaiz JA, Maleno MJ, León A, Muñoz-Fernández MA, Liljestrom P, Weber J, Pantaleo G, Gatell JM, Plana M, Esteban M. 2011. "Safety and immunogenicity of a modified pox vector-based HIV/AIDS vaccine candidate expressing Env, Gag, Pol and Nef proteins of HIV-1 subtype B (MVA-B) in healthy HIV-1-uninfected volunteers: A phase I clinical trial (RISVAC02)" *Vaccine* 29(46): 8309-16.
- Sánchez-Palomino S, Massanella M, Carrillo J, García A, García F, González N, Merino A, Alcamí J, Bofill M, Yuste E, Gatell JM, Clotet B, Blanco J. 2011. "A cell-to-cell HIV transfer assay identifies humoral responses with broad neutralization activity". *Vaccine* 29(32): 5250-9.
- Medina-Ramírez M, Sánchez-Merino V, Sánchez-Palomino S, Merino-Mansilla A, Ferreira CB, Pérez I, González N, Alvarez A, Alcocer-González JM, García F, Gatell JM, Alcamí J, Yuste E. 2011. "Broadly Cross-Neutralizing Antibodies in HIV-1 Patients with Undetectable Viremia" *J Virol*. 85(12):5804-13.
- García F, Climent N, Assoumou L, Gil C, González N, Alcamí J, León A, Romeu J, Dalmau J, Martínez-Picado J, Lifson J, Autran B, Costagliola D, Clotet B, Gatell JM, Plana M, Gallart T, DCV2/MANON07- AIDS Vaccine Research Objective Study Group. 2011. "A therapeutic dendritic cell-based vaccine for HIV-1 infection" *J Infect Dis*. 203(4):473-8.
- González N, Alvarez A, Alcamí J. 2010. "Broadly neutralizing antibodies and their significance for HIV-1 vaccines" *Curr HIV Res*. 8(8):602-12.
- González N, Pérez-Olmeda M, Mateos E, Cascajero A, Alvarez A, Spijkers S, García-Pérez J, Sánchez-Palomino S, Ruiz-Mateos E, Leal M, Alcamí J. 2010. "A sensitive phenotypic assay for the determination of human immunodeficiency virus type 1 tropism" *J Antimicrob Chemother*. 65(12):2493-501.
- González N, Bermejo M, Calonge E, Jolly C, Arenzana-Seisdedos F, Pablos JL, Sattentau QJ, Alcamí J. 2010. SDF-1/CXCL12 Production by Mature Dendritic Cells Inhibits the Propagation of X4-Tropic HIV-1 Viruses at the Dendritic Cell-T Cell Infectious Synapse. *Journal of Virology* 84(9):4341-51.
- Calonge E, Alonso-Lobo JM, Escandón C, González N, Bermejo M, Santiago B, Mestre L, Pablos JL, Caruz A, Alcamí J. 2010. c/EBPbeta is a major regulatory element driving transcriptional activation of the CXCL12 promoter. *J Mol Biol*. 396(3):463-472.
- Bedoya LM, Álvarez A, Bermejo M, González N, Beltrán M, Sánchez-Palomino S, Cruz SM, Gaitán I, del Olmo E, Escarcena R, García PA, Cáceres A, San Feliciano A, Alcamí J. 2008. "Guatemalan plants extracts as virucides against HIV-1 infection". *Phytomedicine* 15(6-7):520-524.
- González N, Pérez-Olmeda M, Gacia-Pérez J, Mateos E, Cascajero A, Álvarez A, Spijkers S, Sánchez-Palomino S, Alcamí. Evaluation of HIV-1 tropism using a new and sensitive system based on recombinant viruses. Abstracts of the XVII International HIV Drug Resistance Workshop: Basic Principles and Clinical Implications. *J. Antivir Ther*. 2008;13(4): P1-4, A119.
- García F, Lejeune M, Climent N, Gil C, Alcamí J, Morente V, Alós L, Ruiz A, Setoain J, Fumero E, Castro P, Lopez A, Cruceta A, Piera C, Florence E, Pereira A, Libois A, González N, Guila M, Caballero M, Lomeña F,

- Joseph J, Miró JM, Pumarola T, Plana M, Gatell JM, Gallart MT. 2005. "Therapeutic Immunization with Dendritic Cells Loaded with Heat-Inactivated Autologous HIV-1 in Patients with Chronic HIV-1 Infection" *Journal of Infectious Diseases* 191: 1680-1685.
- Garcia-Moruja C, Alonso-Lobo JM, Rueda P, Torres C, González N, Bermejo M, Luque F, Arenzana-Seisdedos F, Alcamí J, Caruz A. 2005. "Functional Characterization of SDF-1 Proximal Promoter". *Journal of Molecular Biology* 348: 43-62.
 - Joven B, González N, Aguilar F, Santiago B, Galindo M, Alcamí J, Pablos JL. 2005 "Association between stromal cell-derived factor 1 chemokine gene variant and radiographic progression of rheumatoid arthritis" *Arthritis Rheumatism* 52: 354-356
 - Rullas J, Bermejo M, García-Pérez J, Beltrán M, González N, Hezareh M, Brown SJ, Alcamí J. 2004. "Prostratin induces HIV activation and downregulates HIV receptors in peripheral blood lymphocytes" *Antiviral Therapy* 9: 545-554

COMMUNICATIONS IN CONGRESS

Oral communications:

- IV National Conference GeSIDA (Toledo, 2012). Roundtable conference on Immunopathogenia: "Detección de anticuerpos neutralizantes de amplio espectro en distintas cohortes de pacientes infectados por el VIH" N. González.
- XXX National Conference for Medical Students (Alicante, 2012). Closing conference: "Situación actual en el desarrollo de una vacuna frente al VIH/SIDA" N. González.
- XIX International AIDS Conference (Washington, D.C., 2012): "Characterization of broadly neutralizing antibodies (bNAbs) to HIV-1 present in a cohort of long term non-progressors (LTNPs)" N. González, K. McKee, E. Yuste, J. R. Mascola, J. Alcamí.
- III National Conference GeSIDA (Sevilla, 2011): "Alteraciones en el transcriptoma de células dendríticas inmaduras y maduras en presencia de infección productiva y restrictiva del VIH-1" E. Calonge Errejón, N. González, A. Dopazo, J. Alcamí.
- II National Conference GeSIDA (Madrid, 2010). "La producción de CXCL12/SDF-1 por las células dendríticas maduras inhibe la propagación de los virus X4 en la sinapsis infecciosa" N. González, M. Bermejo, E. Calonge, F. Arenzana-Seisdedos, J. L. Pablos, Q. Sattentau, J. Alcamí.
- 4th Workshop of the Spanish AIDS Research Network (Sitges, 2010). "Análisis de las propiedades bioquímicas y funcionales de la envuelta en ausencia de cambio de tropismo R5>X4 en pacientes no tratados". M.T. Coiras López, J. García Pérez, N. González, A. Cascajero, J. Alcamí.
- I National Conference GeSIDA (Madrid, 2009). "Desarrollo de un método fenotípico para la determinación del tropismo viral del VIH-1" N. González, M. Pérez-Olmeda, E. Mateos, A. Cascajero, A. Álvarez, J. García Pérez, S. Sánchez Palomino, C. Ayerbe, J. Alcamí.
- Europrise Network Annual Conference: Rational Design of HIV Vaccines and Microbicides. (Malta, 2008). "Production of the chemokine CXCL12 (SDF-1) by dendritic cells inhibits propagation of X4 viruses in the immune synapse: implications in HIV transmission" N. González, M. Bermejo, E. Calonge, C. Jolly, J.L. Pablos, Q. Sattentau, J. Alcamí
- 2nd Workshop of the Spanish AIDS Research Network (Sevilla, 2008). "Efecto de la producción de la quimiocina SDF-1/CXCL12 por células dendríticas en la propagación del VIH" N. González, M. Bermejo, E. Calonge, J. Alcamí
- VIII National Conference on AIDS Seisida (Madrid, 2004). "Impacto de la producción de SDF-1/CXCL12 por células dendríticas en la propagación del VIH" N. González Fernández, M. Bermejo, J.L. Pablos, F. Baleux, F. Arenzana, J. Alcamí.
- VIII National Conference on AIDS Seisida (Madrid, 2004). "Desarrollo de un modelo basado en la utilización de virus recombinantes para el estudio de la capacidad replicativa del VIH en pacientes con fracaso terapéutico" J. García, N. González, S. Sánchez-Palomino, B. Fernández, J. Alcamí.
- XV International AIDS conference. (Bangkok, 2004). "A new strategy based on recombinant viruses as a tool for the study of replicative capacity and determinants of viral fitness" J. García-Perez, S. Sánchez-Palomino, N. González, B. Fernández, J. Alcamí
- XV International AIDS conference. (Bangkok, 2004). "Impact of CXCL12 production by dendritic cells in HIV infection" M. Bermejo, J. L. Pablos, N. González, L. Sánchez-Verde, F. Baleux, F. Arenzana, J. Alcamí
- 2nd IAS Conference on HIV Pathogenesis and Treatment (Paris, 2003). "Impact of SDF-1 production by dendritic cells in HIV infection", M. Bermejo, J.L. Pablos, N. González, L. Sánchez-Verde, F. Baleux, F. Arenzana and J. Alcamí.

Written communications:

- 4th Workshop of the Spanish AIDS Research Network (Sitges, 2010). "Correlación entre un ensayo fenotípico de tropismo y diferentes métodos genotípicos" N. González, M. Pérez-Olmeda, A. Álvarez, A. Cascajero, E. Mateos, J. Alcamí.

Curriculum Vitae

- 17th Conference on Retroviruses and Opportunistic Infections (San Francisco, 2010). “Identification of Sera with Broad and Potent Crossneutralizing Activity against HIV-1 in a Group of Patients with Undetectable Viral Loads” M Medina, S Sánchez-Palomino, A Merino, Víctor Sánchez-Merino, N. González, E Mateos, F García, J Alcamí, J Gatell, E Yuste
- Europrise Network Annual Conference. Rational Design of HIV Vaccines and Microbicides (Budapest, 2009). “Measurement of HIV-1 neutralisation in PBMCs using a recombinant virus system carrying luciferase gene as reporter” N. González, A. Álvarez, A. Cascajero, E. Mateos, J. Alcamí.
- 3rd Workshop of the Spanish AIDS Research Network (El Escorial, 2009). “Medida de la neutralización del VIH-1 en PBMCs utilizando un sistema de virus recombinantes que llevan el gen luciferasa como reporter” N. González, E. Mateos, A. Cascajero, A. Álvarez, J. Alcamí.
- Palm Springs symposium on HIV AIDS (Palm Springs, 2009). “Survey of HIV-1 positive sera using a new strategy based on recombinant viruses in order to identify sera with broad and potent cross-neutralizing activity against HIV-1”. M. Medina, S. Sánchez-Palomino, A. Merino, V. Sánchez-Merino, N. González, E. Mateos, J. Alcamí, J.M. Gatell, E. Yuste.
- XVII International HIV Drug Resistance Workshop: Basic Principles & Clinical Implications (Sitges, 2008). “Evaluation of HIV-1 tropism using a new and sensitive system based on recombinant viruses” N. González, M. Pérez-Olmeda, J. García-Pérez, E. Mateos, A. Cascajero, A. Álvarez, S. Spijkers, S. Sánchez-Palomino, J. Alcamí.
- Systems Biology: Global regulation of gene expression (Nueva York, 2007). “Identification of new regulatory sequences driving transcriptional activation of the CXCL12 promoter” E. Calonge, J.M. Alonso-Lobo, N. González, C. Escandón, C. García-Moruja, A. Caruz, J. Alcamí.
- 16th European Congress of Immunology (Paris, 2006). “Impact of CXCL12 production by dendritic cells in HIV-1 infection” N. González, M. Bermejo, E. Calonge, J.L. Pablos, F. Baleux, F. Arenzana, J. Alcamí.
- Assay Development & High-throughput Screening Congress (San Francisco, 2006). “Recombinant viruses as a tool for screening and characterization of new anti-HIV compounds” L.M. Bedoya, J. García, N. González, S. Sánchez-Palomino, J. Alcamí.
- 4th European HIV Drug Resistance Workshop (Monte Carlo, 2006). “Study of viral fitness by recombinant virus assay. Strong decrease in HIV replication capacity in patients harboring Q151M complex in combination with K65R” J. García-Pérez, M. Pérez-Olmeda, S. Sánchez-Palomino, L. Valer, N. González, F. García, T. Pumarola, V. Soriano, J. Alcamí.
- 3rd IAS Conference on HIV Pathogenesis and Treatment (Río de Janeiro, 2005). “Impact of CXCL12 production by dendritic cells in HIV infection by X4 strains” M. Bermejo, N. González, J.L. Pablos, L. Sánchez-Verde, F. Baleux, F. Arenzana, J. Alcamí.
- 11th Conference on Retroviruses and Opportunistic Infections (San Francisco, 2004). “SDF-1/CXCL12 production by dendritic cells decreases infection of lymphocytes by X4 strains in the immune synapsis” N. González, M. Bermejo, J.L. Pablos, F. Baleux, F. Arenzana, and J. Alcamí.
- XV International AIDS conference. (Bangkok, 2004). “Induction of the SDF1/CXCL12 expression by HTLV-I Tax Implications in HIV co-infection” J M Alonso-Lobo, C García-Moruja, M Bermejo, N González, F Arenzana-Seisdedos, A Caruz, J Alcamí
- VIII Congreso Nacional sobre el SIDA. Seisida (Madrid, 2004). “Aplicación de virus recombinantes portadores de genes marcadores al estudio del cribado y caracterización de la actividad frente al VIH de nuevos compuestos” L.M. Bedoya, S. Sánchez-Palomino, M. Beltrán Vicente, J García-Pérez, N. González, J. Alcamí.
- 2nd IAS Conference on HIV Pathogenesis and Treatment (Paris, 2003). “Regulation of the SDF-1 promoter by transactivating viral proteins”, por JM Alonso-Lobo, C García-Moruja, M Bermejo, N González, F Arenzana-Seisdedos, A Caruz, J Alcamí
- XIV International AIDS Conference (Barcelona, 2002). “Cloning and functional analysis of the promoter of HIV-1 inhibitory chemokine Stromal-cell Derived Factor 1”, por C García-Moruja, JM Alonso, MC Torres, N González, FJ Luque, F Arenzana-Seisdedos, J Alcamí, A Caruz.