CURRICULUM VITAE

PERSONAL INFORMATION

NAME:	Rafael Pérez-Ballestero
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EDUCATION AND PROFESSIONAL EXPERIENCE

College Education

1985-1988	Undergraduate student at the University Complutense of Madrid. Major: Biology.
1988-1990	Undergraduate student at the University Autonoma of Madrid. Major: Biochemistry and Molecular Biology. Degree awarded: Licenciado (B.S.).
1990-1992	Graduate student at the University Autonoma of Madrid (Biomedical Research Institute, Spanish Research Council). Department: Biochemistry.
1992-1998	Graduate student at the University of Michigan. Department: Biochemistry. Degree awarded: M.S. in 1994, Ph.D. in 1998.

Professional Experience

Sep1988-Jul1989	Undergraduate Trainee in Microbiology. Mentor: Francisca Fernandez del Campo, Ph.D., Professor, University Autonoma of Madrid, Spain. Research work: "Nitrogen and Hydrogen Metabolism Interrelation in Nitrogen–Fixing Filamentous Cyanobacteria".
1989	Undergraduate Trainee in Plant Cell Biology. Mentor: Maria del Carmen Risueno Almeida, Ph.D., Scientific Researcher, Biological Research Center (CIB), Spanish Research Council (CSIC), Madrid, Spain. Research work: "Pollen Grain Development".
1990-May1992	Graduate Student Research Assisstant in Biochemistry and Molecular Biology. University Autonoma of Madrid, Spain. Mentor: Juan Carlos Lacal

	Sanjuan, Ph.D., Scientific Researcher of the Institute for Biomedical Research, Spanish Research Council (IIB, CSIC). Research work: "*ras* Oncogenes and *ras* Related Genes, Mechanisms of Action".
Jun1992-Aug1992	Visiting Student in the Department of Microbiology and Immunology, University of Michigan. Mentor: Richard Jove, Ph.D., Assistant Professor, University of Michigan. Research work: "Interactions Between Viral Src Tyrosine Kinase and rasGAP".
Sep1992-May1998	Graduate Student Research Assisstant in the Biological Chemistry Department at the University of Michigan. Co-Mentors: Michael D. Uhler, Ph.D., Associate Professor, and Bernard W. Agranoff, M.D., Professor, University of Michigan. Research work: "Characterization of RICH, a CNPase Homolog Induced During Optic Nerve Regeneration".
Sep1998-Aug2001	Laboratory Technical Coordinator and Adjunct Professor, Department of Chemistry. Texas A&M University-Kingsville. Research work: "1: Nerve Regeneration in Zebrafish; 2: Biochemistry of Programmed Cell Death".
Sep2001-Aug2005	Assistant Professor, Department of Biology, Texas A&M University-Kingsville. Research projects: "1: Nerve Regeneration in Zebrafish; 2: Biochemistry of Programmed Cell Death".
Sep2005-Present	Associate Professor, Department of Biology (Biological and Health Sciences since Fall 2006), Texas A&M University-Kingsville. Research projects: "1: Nerve Regeneration in Zebrafish; 2: Biochemistry of Programmed Cell Death".

PUBLICATIONS

Scientific Journals

1.- Perona R., Esteve P., Jiménez B., **Ballestero R.P.**, Ramon y Cajal, S. and Lacal, J.C. (1993). Tumorigenic activity of *rho* genes from *Aplysia californica*. Oncogene 8: 1285-1292.

2.- Gonzalez-Garcia M., **Perez-Ballestero R.**, Ding L., Duan L., Boise L.H., Thompson C.B. and Nuñez G. (1994). *Bcl-xL* is the major *bcl-x* mRNA form expressed during murine development and its product localizes to mitochondria. Development 120: 3033-3042.

3.- Seasholtz A.F., Gamm D.M., **Ballestero R.P.**, Scarpetta M.A., Olsen S.R. and Uhler M.D. (1995). Differential expression of mRNAs for protein kinase inhibitor isoforms in mouse brain. Proc. Natl. Acad. Sci. USA. 92: 1734-1738.

4.- **Ballestero R.P.**, Wilmot G.R., Leski M.L., Uhler M.D. and Agranoff B.W. (1995). Isolation of cDNA clones encoding RICH: A protein induced during goldfish optic nerve regeneration with homology to mammalian 2',3'-cyclic-nucleotide 3'-phosphodiesterases. Proc. Natl. Acad. Sci. USA 92: 8621-8625.

5.- **Ballestero R.P.**, Wilmot G.R., Agranoff B.W. and Uhler M.D. (1997). gRICH68 and gRICH70 are 2',3'-cyclic-nucleotide 3'-phosphodiesterases induced during goldfish optic nerve regeneration. J. Biol. Chem. 272: 11479-11486.

6.- **Ballestero R.P.**, Dybowski J.A., Levy G., Agranoff B.W. and Uhler M.D. (1999) Cloning and characterization of zRICH, a zebrafish 2',3'-cyclic-nucleotide 3'-phosphodiesterase induced during zebrafish optic nerve regeneration. J. Neurochem. 72: 1362-1371.

7.- Vancha A.R., Govindaraju S., Parsa K.V., Jasti M., González-García M., **Ballestero R.P.** (2004) Use of polyethyleneimine polymer in cell culture as attachment factor and lipofection enhancer. BMC Biotechnol. 4(1):23

8.- Chintarlapalli S.R., Jasti M., Malladi S., Parsa K.V., **Ballestero R.P.**, González-García M. (2005) BMRP is a Bcl-2 binding protein that induces apoptosis. J. Cell Biochem. 94: 611-626.

9.- Challa M., Chapa G.R., Govindaraju S., González-García M. and **Ballestero R.P.** (2006) Characterization of the Domains of zRICH, a Protein Induced During Optic Nerve Regeneration in Zebrafish. Brain Res. Jul19; 1100 (1): 42-54.

Book Chapters

1.- **Ballestero R.P.**, Esteve P., Perona R., Jiménez B. and Lacal J.C. (1991) Biological function of *Aplysia californica rho* gene. in "The superfamily of *ras*-related genes". NATO-ASI series. Edited by Spandidos, D.A.. Plenum Press, New York. pp. 237-242.

2.- Perona R., **Ballestero R.P.**, Lacal J.C. (1993) The *rho* gene family. in "The *ras* superfamily of GTPases" Edited by Lacal, J.C. and McCormick, F. CRC Press, Boca Raton. pp. 259-282.

3.- Jiménez B., **Ballestero R.P.** and Lacal J.C. (1994) Oncogenes y genes supresores (Oncogenes and tumor suppressor genes). in "Avances en ingenieria genetica (advances in genetic engineering)". Edited by Vicente, M.. Consejo Superior de Investigaciones Cientificas (CSIC), Madrid. pp 299-320.

Abstracts and Presentations

1.- **Ballestero R.P.,** Esteve P., Perona R., Jiménez B. and Lacal J.C. (1991) Biological function of *Aplysia californica rho* gene. NATO Advanced Workshops. "International Workshop: The Superfamily of ras–Related Genes". Crete, Greece.

2.- **Ballestero, R.P.**, Wilmot G.R., Agranoff B.W. and Uhler M.D (1995). Isolation of cDNA clones encoding RICH: A protein induced during goldfish optic nerve regeneration with homology to mammalian 2',3'-cyclic-nucleotide 3'-phosphodiesterases. Society for Neuroscience 25th Annual Meeting, San Diego. Abstract 130-2.

3.- **Ballestero R.P.**, Wilmot G.R., Agranoff B.W. and Uhler M.D (1996). gRICH68 and gRICH70 are goldfish 2',3'-cyclic-nucleotide 3'-phosphodiesterases upregulated during optic nerve regeneration. Soc. Neurosci. Abstr. Vol. 22, Part 2, p.1020.

4.- Uhler M.D., **Ballestero R.P.**, Dybowski J.A. and Agranoff B.W. (1996). Isolation of a partial cDNA encoding the zebrafish protein zRICH and its expression after optic nerve crush. Soc. Neurosci. Abstr. Vol. 22, Part 2, p.1020.

5.- **Ballestero R.P.**, Dybowski J.A., Uhler M.D. and Agranoff B.W. (1997) Isolation of cDNAs encoding the zebrafish protein zRICH, a non-mammalian 2',3'-cyclic-nucleotide 3'-phosphodiesterase induced in neurons during optic nerve regeneration. Journal of Neurochemistry. Vol. 69, supplement, p S141.

6.- Luna I.G., Chapa G.R., González-García M. and **Ballestero R.P.**(1999) Study of zRICH protein using deletion techniques. Summer Undergraduate Research Internship, Ronald E. McNair Program. Texas A&M University-Kingsville, Kingsville, Texas.

7.- McCoy W., Galal-ElDeen A., **Ballestero R.P.** and González-García M. (2000) Identification and Characterization of a novel protein that binds to Bcl-2. 1st Annual RIMI/NIH Research Symposium. Spelman College, Atlanta, Georgia.

8.- Chapa G.R., González-García M. and **Ballestero R.P.** (2000) Biochemical and Functional characterization of zRICH subdomains. 1st Annual RIMI/NIH Research Symposium. Spelman College, Atlanta, Georgia.

9.- Galal-ElDeen A., McCoy W., **Ballestero R.P.** and González-García M. (2000) Characterization of BBP-1, a novel protein that binds to Bcl-2. 103rd Annual Meeting of the Texas Academy of Science. Texas A&M University-Kingsville, Kingsville, Texas.

10.- Chapa G.R., González-García M**.** and **Ballestero R.P.** (2000) Characterization of the catalytic domain of the zebrafish RICH protein. 103rd Annual Meeting of the Texas Academy of Science. Texas A&M University-Kingsville, Kingsville, Texas.

11.- Galal-ElDeen A., McCoy W., **Ballestero R.P.** and González-García M. (2000) Characterization of BBP-1, a novel protein that binds to Bcl-2. Second Annual President's Distinguished Student Research Seminar. Texas A&M University-Kingsville, Kingsville, Texas.

12.- Chapa G.R., González-García M. and **Ballestero R.P.** (2000) Characterization of the catalytic domain of the zebrafish RICH protein. Second Annual President's

Distinguished Student Research Seminar. Texas A&M University-Kingsville, Kingsville, Texas.

13.- González MY, Chapa GR, González-García M. and **Ballestero R.P.** (2000) Levels of CNPase Activity in zRICH Mutant Proteins. Summer Undergraduate Research Internship, Ronald E. McNair Program. Texas A&M University-Kingsville, Kingsville, Texas.

14.- Chapa G.R., González-García M. and **Ballestero R.P.** (2001) Biochemical and functional characterization of zRICH subdomains by PCR mutagenesis. Third Annual President's Distinguished Student Research Seminar. Texas A&M University-Kingsville, Kingsville, Texas.

15.- Chapa G.R., González-García M. and **Ballestero R.P.** (2001): Analysis of the function of the zebrafish RICH protein subdomains by deletion mutagenesis. American Chemical Society-South Texas Chapter Meeting. Texas A&M University-Kingsville, Kingsville, Texas.

16.- Chintharlapalli-Reddy S., Jasti M., Parsa V.L.K., **Ballestero R.P.** and González-García M. (2001): Functional studies of BBP-1, a novel protein that binds to Bcl-2. American Chemical Society-South Texas Chapter Meeting. Texas A&M University-Kingsville, Kingsville, Texas.

17.- Chapa G.R., González-García M. and **Ballestero R.P.** (2001): Functional analysis of zRICH subdomains by PCR mutagenesis. National Meeting of the Society for the Advancement of Chicanos and Native Americans in the Sciences (SACNAS). Phoenix, Arizona.

18.- Chintharlapalli-Reddy S., Jasti M., Parsa V.L.K., **Ballestero R.P.** and González-García M (2002) Functional Studies of BBP-1, a novel protein that binds to Bcl-2. 105th Annual Meeting of the Texas Academy of Science, Texas A&M International University, Laredo, Texas.

19.- Chapa G.R., González-García M. and **Ballestero R.P.** (2002) Enzymatic and functional analysis of zRICH domains. 105th Annual Meeting of the Texas Academy of Science, Texas A&M International University, Laredo, Texas.

20.- Chintharlapalli-Reddy S., Jasti M., Parsa V.L.K., **Ballestero R.P.** and González-García M. (2002) Identification and biochemical characterization of a novel protein involved in apoptosis. 2nd Biennial RIMI/NIH Research Symposium. Morgan State University, Baltimore, Maryland.

21.- Chapa G.R., González-García M. and **Ballestero R.P.** (2002) A study of zRICH domains by biochemical studies with deletion mutants. 2nd Biennial RIMI/NIH Research Symposium. Morgan State University, Baltimore, Maryland.

22.- Chintharlapalli-Reddy S., Jasti M., Parsa V.L.K., **Ballestero R.P.** and González-García M. (2002) Identification and biochemical characterization of a novel protein involved

in apoptosis. Fourth Annual President's Distinguished Student Research Seminar. Texas A&M University-Kingsville, Kingsville, Texas.

23.- Challa M., Chapa G.R., González-García M. and **Ballestero R.P.** (2002) Characterization of the domains of ZRICH, a protein induced during optic nerve regeneration in zebrafish. Fourth Annual President's Distinguished Student Research Seminar. Texas A&M University-Kingsville, Kingsville, Texas.

24.- Vancha A.R., González-García M**.** and **Ballestero R.P.** (2002) Characterization of the *rich* gene structure and promoter region. Fourth Annual President's Distinguished Student Research Seminar. Texas A&M University-Kingsville, Kingsville, Texas.

25.- Estrada D., **Ballestero R.P.** and González-García M. (2002) Cloning and expression of recombinant hBcl-2 protein in *Escherichia coli*. Summer Undergraduate Research Internship, Ronald E. McNair Program. Texas A&M University-Kingsville, Kingsville, Texas.

26.- Malladi S., Parsa V.L.K., **Ballestero R.P.** and González-García M. (2002) Identification of domains required for heterodimerization of anti-apoptotic Bcl-2 to BBP-1, a novel pro-apoptotic protein. Seventeenth Lost Pines Conference on Cellular and Molecular Biology. University of Texas M.D. Anderson Cancer Center Science Park, Research Division. Smithville, Texas.

27.- Jasti M., Chintharlapalli-Reddy S., **Ballestero R.P.** and González-García M. (2002) Functional and biochemical studies of BBP-1, a novel pro-apoptotic protein Seventeenth Lost Pines Conference on Cellular and Molecular Biology. University of Texas M.D. Anderson Cancer Center Science Park, Research Division. Smithville, Texas.

28.- Vancha A.R., González-García M. and **Ballestero R.P.** (2002): Promoter region analysis and characterization of the goldfish *rich70* gene structure. Seventeenth Lost Pines Conference on Cellular and Molecular Biology. University of Texas M.D. Anderson Cancer Center Science Park, Research Division. Smithville, Texas.

29.- Challa M., Chapa G.R., González-García M. and **Ballestero R.P.** (2002): Functional characterization of the domains of the zebrafish RICH protein. Seventeenth Lost Pines Conference on Cellular and Molecular Biology. University of Texas M.D. Anderson Cancer Center Science Park, Research Division. Smithville, Texas.

30.- **Ballestero R.P.** (2003): The study of a protein associated with nerve regeneration of teleost fish. Collaborative Workshop between TAMUK and UTMB-Galveston. University of Texas Medical Branch at Galveston.

31.- Challa M., Govindaraju S., Partida M., Chapa G.R., González-García M. and **Ballestero R.P.** (2003): Analysis of the domains of the nerve regeneration related protein zRICH. Eighteenth Lost Pines Conference on Cellular and Molecular Biology.

University of Texas M.D. Anderson Cancer Center Science Park, Research Division. Smithville, Texas.

32.- Parsa K.V.L., Malladi S., Jasti M., Chintharlapalli S.R., **Ballestero R.P.** and González-García M. (2003): Characterization of the Bcl-2 binding protein BBP. Eighteenth Lost Pines Conference on Cellular and Molecular Biology. University of Texas M.D. Anderson Cancer Center Science Park, Research Division. Smithville, Texas.

33.- Parsa, K.V.L., Malladi S., Jasti M., Chintharlapalli S.R., **Ballestero R.P.** and González-García M. (2003): Biochemical and functional characterization of BBP, a Bcl-2 binding protein. American Chemical Society-South Texas Chapter Meeting. Texas A&M University-Kingsville, Kingsville, Texas.

34.- Govindaraju S., Challa M., Chapa G.R., González-García M. and **Ballestero R.P.** (2003): Analysis of the functional domains of zRICH, a protein induced during nerve regeneration in the zebrafish. American Chemical Society-South Texas Chapter Meeting. Texas A&M University-Kingsville, Kingsville, Texas.

35.- Malladi S., Parsa, K.V.L., **Ballestero R.P.** and González-García M. (2003): Study of the domains of Bcl-2 and BBP proteins that are involved in the Bcl-2/BBP interaction. American Chemical Society-South Texas Chapter Meeting. Texas A&M University-Kingsville, Kingsville, Texas.

36.- **Ballestero R.P.** (2004): Biochemical and functional studies on zRICH, a protein induced during optic nerve regeneration in zebrafish. Neuroscience Seminar Series. Texas A&M University-College Station. (Invited seminar, hosted by Dr. Mark Zoran)

37.- Govindaraju S., Challa M., Chapa G.R., González-García M. and **Ballestero R.P.** (2004): Study of the functional domains of zRICH, a nerve regeneration induced protein in zebrafish. Second Annual TAMUS Pathways Research Symposium. Texas A&M University-Corpus Christi, Corpus Christi, Texas.

38.- Shantidas K.M.J., Cantú J., Malladi S., Parsa K.V.L., **Ballestero R.P.** and González-García M. (2004): Identification of the Bcl-2 and BBP protein domains that are required for the Bcl-2/BBP interaction. Third Annual TAMUS Pathways Research Symposium. Texas A&M University-Corpus Christi, Corpus Christi, Texas.

39.- Govindaraju S., Challa M., Chapa G.R., González-García M. and **Ballestero R.P.** (2004): Study of the domains of zRICH, a nerve regeneration induced protein in zebrafish. Third Research Symposium of the American Chemical Society-South Texas Chapter. University of Texas-Pan American. Edinburg, Texas.

40.- Shantidas K.M.J., Cantú J., Malladi S., Parsa K.V.L., **Ballestero R.P.** and González-García M. (2004): Identification of the Bcl-2 and BBP protein domains that are required for the Bcl-2/BBP interaction. Third Research Symposium of the American Chemical Society-South Texas Chapter. University of Texas-Pan American. Edinburg, Texas.

41.- Cantú J., Hinojosa M.E., Parsa, K.V.L., **Ballestero R.P.** and González-García M. (2005): Characterization of the role of BMRP in apoptosis and analysis of the Bcl-2/BMRP interaction. Bridges Program and SURP Research Symposium. University of Texas Medical Branch at Galveston. Galveston, Texas.

42.- **Ballestero R.P.** (2005) Regeneration of the optic nerve in zebrafish: implication of the protein zRICH. Hospital Universitario de la Princesa, Madrid, Spain. (Invited seminar, hosted by Dr Luis del Peso Ovalle).

43.- Govindaraju S., Jose S., Bhupathi D., Challa M., Chapa G.R., González-García M. and **Ballestero R.P.** (2005): Deletion mutagenesis analysis of zRICH, a nerve regeneration induced protein from zebrafish. Third Annual TAMUS Pathways Research Symposium. Texas A&M University-Kingsville. Kingsville, Texas.

44.- Cantú J., Bhupathi D., Hinojosa M.E., Anumula P., Malladi S., Parsa K.V.L., Jasti M., **Ballestero R.P.** and González-García M. (2005): Studies of the role of BMRP in apoptosis and analysis of the Bcl-2/BMRP interaction. Third Annual TAMUS Pathways Research Symposium. Texas A&M University-Kingsville. Kingsville, Texas.

45.- Beran K.A., Halfacre J.A. Bashir S., **Perez-Ballestero R.** (2006): Investigation of the RICH protein network through computational analysis. 231st American Chemical Society National Meeting, Division of Chemical Education. Atlanta, Georgia.

46.- Romo H.E., Conde J.A., Bhupathi D., Hinojosa M.E., **Ballestero R.P.** and González-García M. (2007): Localization and Functional Studies of Pro-apoptotic BMRP and its Deletion Mutants. Fifth Annual TAMUS Pathways Research Symposium. Tarleton State University, Stephenville, Texas.

47.- Conde J.A., Parsa K.V.L., Bhupathi D., Anumula P., **Ballestero R.P.** and González-García M. (2007): Functional Analysis of BMRP, a Pro-apoptotic Protein that Binds to Bcl-2. Fifth Annual TAMUS Pathways Research Symposium. Tarleton State University, Stephenville, Texas.

48.- Pathi S.S., Jose S., Govindaraju S., González-García M. and **Ballestero R.P.** (2007): zRICH, a Nerve Regeneration Related Protein from Zebrafish, Modulates Neurite Branching in Differentiating PC12 Cells. Fifth Annual TAMUS Pathways Research Symposium. Tarleton State University, Stephenville, Texas.

49.- Romo H.E., **Ballestero R.P.** and González-García M. (2007): Molecular Engineering of pAcGFP1-N2-hp25ΔMISP13, pAcGFP1-C1-hp25ΔMISP13 and pAcGFP1-C1-hp25DΔ for Use in Subcellular Localization and Functional Studies of BMRP, a Human Protein that Induces Apoptosis. 12th Annual Ronald E. McNair Scholars Program Presentation. Texas A&M University-Kingsville, Kingsville, Texas.

50.- Romo H.E., **Ballestero R.P.** and González-García M. (2008): Generation of BMRP Alanine Substitution Mutants and Studies of Their Interaction with Bcl-2. 13th

Annual Ronald E. McNair Scholars Program Presentation. Texas A&M University-Kingsville, Kingsville, Texas.

51.- Conde J.A., Malladi S., Rodríguez M.A., Parsa K.V.L, **Ballestero R.P.** and González-García M. (2008): Functional Analysis of BMRP, a Pro-Apoptotic Protein that Binds to Bcl-2. Sixth Annual TAMUS Pathways Research Symposium. Texas A&M University-Commerce, Commerce, Texas.

52.- Romo H.E., Conde J.A., Bhupathi D., **Ballestero R.P.** and González-García M. (2008): Deletion Mutant Analysis of BMRP, A Pro-Apoptotic Bcl-2 Binding Protein. Sixth Annual TAMUS Pathways Research Symposium. Texas A&M University-Commerce, Commerce, Texas.

53.- Pathi S.S., Jose S., Govindaraju S., Challa M., González-García M. and **Ballestero R.P.** (2008): zRICH, a Nerve Regeneration Protein Affects Neurite Morlphology in PC12 Cells. Sixth Annual TAMUS Pathways Research Symposium. Texas A&M University-Commerce, Commerce, Texas.

54.- Romo H.E., Conde J.A., Anumula P., Parsa K.V.L., **Ballestero R.P.** and González-García M. (2009): Characterization of the Domains of BMRP that Are Involved in Its Interaction with Bcl-2. Bridges Program and SURP Research Symposium. University of Texas Medical Branch at Galveston, Galveston, Texas.