

## CURRICULUM VITAE

### **Personal Data:**

David Marcelo Ojcius

*Date of Birth and Place:*

30 September 1957, Pôrto Alegre (Brazil)

Citizenship: France and USA

Married, two children

*Professional Address:*

Until July 2010 :

School of Natural Sciences  
University of California  
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After July 2010:

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### **Diplomas and Training Since High School:**

1979            B.A. in Biophysics  
                  University of California, Berkeley

1986            Ph.D. in Biophysics  
                  University of California, Berkeley

### **Professional Activities:**

1985-1987    Postdoctoral Fellow  
                  Harvard Medical School, Boston

1988-1991    Postdoctoral Fellow/Assistant Professor  
                  Rockefeller University, New York

- 1991-2000 Permanent Research Staff  
Institut Pasteur, Paris
- 2000-... Professor (Cell Biology and Biochemistry)  
Université Paris – Denis Diderot, Paris
- 2004-2010 Professor (Cell Biology and Immunology)  
University of California, Merced

**Administration (main activities since 2004):**

- 2004-... --Member or Chair, over 15 search committees, UC Merced  
(genomics, evolution, developmental biology, statistics, bioengineering, systems biology, anthropology, stem cell biology, biophysics, complex diseases, neurobiology, public health ...)
- 2005-2008 --Faculty vice-chair, School of Natural Sciences, UC Merced
- 2008-... --Faculty chair, School of Natural Sciences, UC Merced
- 2005 --Vice-chair, UC Merced Committee on Academic Personnel (CAP)  
(CAP is a faculty committee that makes final recommendations on appointment, tenure, and merit increases for the entire UC Merced campus)
- 2006-2007 --Chair, UC Merced Committee on Academic Personnel (CAP)
- 2007-2008 --Chair, “Quantitative and Systems Biology” Graduate Group, UC Merced
- 2007-... --UC Merced representative for University of California (UC) Planning Committee for creation of a UC-wide School of Global Health Sciences
- 2008-... --Vice Provost for Academic Personnel, UC Merced  
(Half-time administrative position. Accepts recommendations from CAP and oversees the academic personnel process at UC Merced.)

### **Editorial Activities:**

- 1997-1998 --Editor-in-chief, *Bulletin de l'Institut Pasteur*
- 1999-2009 --Review Editor and Associate Editor, *Microbes and Infection*  
<http://www.elsevier.com/locate/issn/12864579>
- 2010-... --Editor-in-Chief, *Microbes and Infection*
- 2000-2006 --Member of Editorial Board, *Research in Microbiology*  
<http://www.pasteur.fr/infosci/publisci/presentation.html#rm>
- 2003-... --Member of Editorial Board, *BMC Infectious Diseases*  
<http://www.biomedcentral.com/bmcinfectdis/>
- 2003-... --Compilation of monthly "Disease Watch" section, *Nature Rev. Microbiol.*  
<http://www.nature.com/nrmicro/>
- 2006-... --Member of Editorial Board, *Journal of Biological Chemistry*  
<http://www.jbc.org/>
- 2006-... --Member of Editorial Board, *PLoS ONE*  
<http://www.plosone.org/>
- 2009-... --Deputy Executive Editor-in-Chief, *FACTS Reports*  
(journal of the Institut Veolia Environnement)  
<http://factsreports.revues.org/>

### **Technical and Scientific Roles:**

- 2004-... --Ad hoc reviewer, "Innate immunity and inflammation" study section, National Institutes of Health
- 2001-... --Reviewer of manuscripts for: *Immunity, Journal of Experimental Medicine, Journal of Biological Chemistry, Journal of Immunology, Infection and Immunity, Antimicrobial Agents and Chemotherapy, Cellular Microbiology*

### **Current Research Support:**

R01 DE019444-01 NIH/NIDCR Ojcius (PI) 2009-2013  
The Inflammasome in Gingival Epithelial Cells During *Porphyromonas* Infection

## **LIST OF ORIGINAL PUBLICATIONS**

1. Tsui, F.C., Ojcius, D.M. & Hubbell, W.L. The intrinsic pKa values for phosphatidylcholine and phosphatidylethanolamine in phosphatidylcholine host bilayers. *Biophys. J.* (1986) 49:459-468.
2. Ojcius, D.M. & Solomon, A.K. Sites of p-chloromercuribenzenesulfonate inhibition of red cell urea and water transport. *Biochim. Biophys. Acta* (1988) 942:73-83.
3. Janoshazi, A., Ojcius, D.M., Kone, B., Seifter, J.L. & Solomon, A.K. Relation between the anion exchange protein in kidney medullary collecting duct cells and red cell band 3. *J. Memb. Biol.* (1988) 103:181-189.
4. Ojcius, D.M., Toon, M.R. & Solomon, A.K. Is an intact cytoskeleton required for native red cell urea and water transport? *Biochim. Biophys. Acta* (1988) 944:19-28.
5. Castella-Escola, J., Mattei, M.G., Ojcius, D.M., Passage, E., Valentin, C. & Cohen-Solal, M. In situ mapping of the muscle-specific form of phosphoglycerate mutase gene to human chromosome 7p12-7p13. *Human Genetics* (1990) 84:210-212.
6. Castella-Escola, J., Ojcius, D.M., Le Boulch, P., Joulin, V., Blouquit, Y., Garel, M.C., Valentin, C., Rosa, R., Climent-Romeo, F. & Cohen-Solal, M. Isolation and characterization of the gene encoding the muscle-specific isozyme of human phosphoglycerate mutase. *Gene* (1990) 91:225-232.
7. Ojcius, D.M. & Young, J.D.-E Characterization of the inhibitory effect of lysolipids on perforin-mediated hemolysis. *Molec. Immunol.* (1990) 27:257-261.
8. Jiang, S., Ojcius, D.M., Persechini, P.M. & Young, J.D.-E Resistance of cytolytic lymphocytes to perforin-mediated killing: Inhibition of perforin binding activity by surface membrane proteins. *J. Immunol.* (1990) 144:998-1003.
9. Jiang, S., Ojcius, D.M. & Young, J.D.-E Perforin binding to cells and lipid membranes determined by a simple competition assay. *J. Immunol. Methods* (1990) 126:29-37.
10. Ojcius, D.M., Jiang, S., Persechini, P.M., Storch, J. & Young, J.D.-E Resistance to the pore forming protein of cytotoxic T cells: comparison of target cell membrane rigidity. *Molec. Immunol.* (1990) 27:839-845.
11. Jiang, S., Hasselkus-Light, C.S., Ojcius, D.M. & Young, J.D.-E Purification of a membrane-associated serine esterase from murine cytotoxic T lymphocytes by a single reverse phase column. *Protein Expression & Purification* (1990) 1:77-80.
12. Zheng, L.M., Zychlinsky, A., Liu, C.-C., Ojcius, D.M. & Young, J.D.-E Extracellular ATP as a trigger for apoptosis or programmed cell death. *J. Cell Biol.* (1991) 112:279-288.
13. Ojcius, D.M., Muller, S., Hasselkus-Light, C., Young, J.D.-E & Jiang, S. Plasma membrane-associated proteins with the ability to partially inhibit perforin-mediated lysis. *Immunol. Lett.* (1991) 28:101-108.
14. Zheng, L.M., Ojcius, D.M., Liu, C.-C., Kramer, M.D., Simon, M.M., Parr, E.L. & Young, J.D.-E Immunogold labelling of perforin and serine esterases in granulated metrial gland cells. *FASEB J.* (1991) 5:79-85.

15. Ojcius, D.M., Persechini, P.M., Zheng, L.M., Barbosa, P.A.C.N., Sousa, S.C.A. & Young, J.D.-E Cytolytic and ion channel forming properties of the N-terminus of lymphocyte perforin. *Proc. Natl. Acad. Sci. USA* (1991) 88:4621-4625.
16. Ojcius, D.M., Zheng, L.M., Sphicas, E.C., Zychlinsky, A. & Young, J.D.-E Subcellular localization of perforin and serine esterase in lymphokine-activated killer (LAK) cells and cytotoxic T cells by immunogold labelling. *J. Immunol.* (1991)146:4427-4432.
17. Zheng, L.M., Liu, C.-C., Ojcius, D.M. & Young, J.D.-E Expression of lymphocyte perforin in the mouse uterus during pregnancy. *J. Cell Sci.* (1991) 99:317-323.
18. Ojcius, D.M., Jiang, S., Persechini, P.M., Detmers, P.A. & Young, J.D.-E Cytoplasts from cytotoxic T lymphocytes are resistant to perforin-mediated lysis. *Molec. Immunol.* (1991) 28:1011-1017.
19. Ojcius, D.M., Zychlinsky, A., Zheng, L.M. & Young, J.D.-E Ionophore-induced apoptosis: role of DNA fragmentation and calcium fluxes. *Exp. Cell Res.* (1991) 197:43-49.
20. Persechini, P.M., Ojcius, D.M., Adeodato, S.C., Notaroberto, P.C., Daniel, C.B. & Young, J.D.-E Channel forming activity of the perforin N-terminus and an  $\alpha$ -helical region homologous with complement C9. *Biochemistry* (1992) 31:5017-5021.
21. Ojcius, D.M., Abastado, J.-P., Godeau, F. & Kourilsky, P. Peptide binding to MHC class I proteins measured with a novel fluorescent technique. *C. R. Acad. Sci. III* (1992) 315:337-341.
22. Godeau, F., Luescher, I.F., Ojcius, D.M., Saucier, C., Mottez, E., Cabanie, L. & Kourilsky, P. Purification and ligand binding of a soluble class I MHC molecule consisting of the first three domains of H-2K<sup>d</sup> fused to  $\beta$ 2-microglobulin expressed in the baculovirus/insect cell system. *J. Biol. Chem.* (1992) 267:24223-24229.
23. Ojcius, D.M., Abastado, J.-P., Godeau, F. & Kourilsky, P. Binding of alanine-substituted peptides to the MHC class I protein K<sup>d</sup>. *FEBS Lett.* (1993) 317:49-52.
24. Zheng, L.M., Ojcius, D.M. & Young, J.D.-E Perforin-containing cells during spontaneous abortion. *Biol. Reprod.* (1993) 48:1014-1019.
25. Ojcius, D.M., Godeau, F., Abastado, J.-P., Casanova, J.-L. & Kourilsky, P. Real-time measurement of antigenic peptide binding to empty and preloaded single-chain MHC class I molecules. *Eur. J. Immunol.* (1993) 23:1118-1124.
26. Abastado, J.-P., Ojcius, D.M., Casrouge, A., Yeh, P., Schumacher, T.N.M., Ploegh, H. & Kourilsky, P. A soluble, single-chain K<sup>d</sup> molecule produced by yeast selects a peptide repertoire indistinguishable from that of cell-surface-associated K<sup>d</sup>. *Eur. J. Immunol.* (1993) 23:1776-1783.
27. Zheng, L.M., Ojcius, D.M. & Young, J.D.-E Distribution of perforin-containing cells in normal and pregnant mice. *Eur. J. Immunol.* (1993) 23:2085-2091.
28. Ojcius, D.M., Abastado, J.-P., Casrouge, A., Mottez, E., Cabanie, L. & Kourilsky, P. Dissociation of the peptide-MHC class I complex limits the binding rate of exogenous peptide. *J. Immunol.* (1993)151:6020-6026.

29. Ojcius, D.M., Gapin, L. & Kourilsky, P. Dissociation of the peptide/MHC class I complex: pH dependence and effect of endogenous peptides on the activation energy. *Biochem. Biophys. Res. Comm.* (1993) 197:1216-1222.
30. Duke, R.C., Witter, R.Z., Nash, P.B., Young, J.D.-E & Ojcius, D.M. Cytolysis mediated by ionophores and pore-forming agents: role of intracellular calcium in apoptosis. *FASEB J.* (1994) 8:237-246.
31. Sun, D., Jiang, S., Zheng, L.M., Ojcius, D.M. & Young, J.D.-E Separate metabolic pathways leading to DNA fragmentation and apoptotic nuclear chromatin condensation. *J. Exp. Med.* (1994) 179:559-568.
32. Ojcius, D.M., Langlade-Demoyen, P., Gachelin, G. & Kourilsky, P. Role for MHC class I molecules in selecting and protecting high affinity peptides in the presence of proteases. *J. Immunol.* (1994) 152:2798-2810.
33. Lone, Y.C., Ojcius, D.M., Bellio, M., Kourilsky, P. & Abastado, J.-P. Major contribution of the V $\beta$  chain to the antigen specificity of a TCR. *C. R. Acad. Sci. III* (1994) 317:645-651.
34. Dittes, K., Gakamsky, D., Haas, E., Ojcius, D.M., Kourilsky, P. & Pecht, I. Picosecond fluorescence spectroscopy of a single-chain class I major histocompatibility complex-encoded protein in its peptide loaded and unloaded states. *Immunol. Lett.* (1994) 40:125-132.
35. Lone, Y.C., Bellio, M., Prochnicka-Chalufour, A., Ojcius, D.M., Boissel, N., Ottenhoff, T.H.M., Klausner, R.D., Abastado, J.-P. & Kourilsky, P. Role of the complementary-determining region 1 of the T-cell receptor  $\beta$  chain in the binding to a major histocompatibility complex class I-peptide complex. *Int. Immunol.* (1994) 6:1561-1565.
36. Roth, C., Kourilsky, P. & Ojcius, D.M. Ly-49-independent inhibition of NK cell-mediated cytotoxicity by a soluble MHC class I molecule. *Eur. J. Immunol.* (1994) 24:2110-2114.
37. Ojcius, D.M., Thibon, M., Mounier, C & Dautry-Varsat, A. pH and calcium dependence of hemolysis due to *Rickettsia prowazekii*: comparison with phospholipase activity. *Infect. Immun.* (1995) 63:3069-3072.
38. Zheng, L.M., Ojcius, D.M., Garaud, F., Roth, C., Maxwell, E., Li, Z., Rong, H., Chen, J., Wang, X.Y., Catino, J.J. & King, I. Interleukin-10 inhibits tumor metastasis through an NK-cell dependent mechanism. *J. Exp. Med.* (1996) 184:579-584.
39. Thibon, M., Villiers, V., Souque, P., Dautry-Varsat, A., Duquesnel, R. & Ojcius, D.M. High incidence of *Coxiella burnetii* markers in a rural population in France. *Eur. J. Epidemiol.* (1996) 12:509-513.
40. Gutiérrez-Martín, C., Ojcius, D.M., Hsai, R.-c., Hellio, R., Bavoil, P.M. & Dautry-Varsat, A. Heparin-mediated inhibition of *Chlamydia psittaci* adherence to HeLa cells. *Microb. Pathog.* (1997) 22:47-57.
41. Gapin, L., Cabaniols, J.-P., Cibotti, R., Ojcius, D.M., Kourilsky, P. & Kanellopoulos, J.M. Determinant selection for T-cell tolerance in HEL-transgenic mice: dissociation between immunogenicity and tolerogenicity. *Cell. Immunol.* (1997) 177:77-85.

42. Ojcius, D.M., Hellio, R. & Dautry-Varsat, A. Distribution of endosomal, lysosomal and MHC markers in a monocytic cell line infected with *Chlamydia psittaci*. *Infect. Immun.* (1997) 65:2437-2442.
43. Ojcius, D.M., Bravo, Y., Kanellopoulos, J.M., Hawkins, R.A., Kelly, K.A., Rank, R.G. & Dautry-Varsat, A. Internalization of *Chlamydia* by dendritic cells and stimulation of *Chlamydia*-specific T cells. *J. Immunol.* (1998) 160:1297-1303.
44. Ojcius, D.M., Degani, H., Mispelter, J. & Dautry-Varsat, A. Enhancement of ATP levels and glucose metabolism during an infection by *Chlamydia*: NMR studies of living cells. *J. Biol. Chem.* (1998) 273:7052-7058.
45. Ojcius, D.M., Souque, P., Perfettini, J.-L. & Dautry-Varsat, A. Apoptosis of epithelial cells and macrophages due to infection with the obligate intracellular pathogen *Chlamydia psittaci*. *J. Immunol.* (1998) 161:4220-4226.
46. Grillot-Courvalin, C., Goussard, S., Huetz, F., Ojcius, D.M. & Courvalin, P. Functional delivery of genes from internalized bacteria to mammalian host cells. *Nature Biotech.* (1998) 16:862-866.
47. Farge, E., Ojcius, D.M., Subtil, A. & Dautry-Varsat, A. Enhancement of endocytosis due to aminophospholipid transport across the plasma membrane of living cells. *Am. J. Physiol.* (1999) 276:C725-C733.
48. Boleti, H., Benmerah, A., Ojcius, D.M., Cerf-Bensussan, N. & Dautry-Varsat, A. *Chlamydia* infection of epithelial cells expressing dynamin and Eps15 mutants: clathrin-independent entry into cells and dynamin-dependent productive growth. *J. Cell Sci.* (1999) 112:1487-1496.
49. Coutinho-Silva, R., Persechini, P.M., Bisaggio, R.C., Perfettini, J.L., Sa Neto, A.C.T., Kanellopoulos, J.M., Motta, I., Dautry-Varsat, A. & Ojcius, D.M. P2Z-P2X<sub>7</sub> receptor-mediated apoptosis of dendritic cells. *Am. J. Physiol.* (1999) 276:C1139-C1147.
50. Ojcius, D.M., Perfettini, J.L., Bonnin, A. & Laurent, F. Caspase-dependent apoptosis during infection with *Cryptosporidium parvum*. *Microbes Infect.* (1999) 1:1163-1168.
51. Boleti, H., Ojcius, D.M. & Dautry-Varsat, A. Fluorescent labelling of intracellular bacteria in living host cells. *J. Microbiol. Meth.* (2000) 40:265-274.
52. Perfettini, J.L., Darville, T., Gachelin, G., Souque, P., Huerre, M., Dautry-Varsat, A. & Ojcius, D.M. Effect of *Chlamydia trachomatis* infection and subsequent TNF $\alpha$  secretion on apoptosis in the murine genital tract. *Infect. Immun.* (2000) 68:2237-2244.
53. Coutinho-Silva, R., Perfettini, J.L., Persechini, P.M., Dautry-Varsat, A. & Ojcius, D.M. Modulation of P2Z/P2X<sub>7</sub> receptor activity in macrophages infected with *Chlamydia psittaci*. *Am. J. Physiol.* (2001) 280:C81-C89.
54. Bonnin, A., Ojcius, D.M., Souque, P., Barnes, D.A., Doyle, P.S., Gut, J., Nelson, R.G., Petersen, C. & Dubremetz, J.F. Characterization of a monoclonal antibody reacting with antigen-4 domain of gp900 in *C. parvum* invasive stages. *Parasitol. Res.* (2001) 57:589-592.

55. Perfettini, J.L., Reed, J.C., Israel, N., Martinou, J.C., Dautry-Varsat, A. & Ojcius, D.M. Role of Bcl-2 family members in caspase-independent apoptosis due to *Chlamydia* infection. *Infect. Immun.* (2002) 70:55-61.
56. Motta, I., Gissot, M., Kanellopoulos, J.M. & Ojcius, D.M. Absence of weight loss during *Cryptosporidium* infection in susceptible mice deficient in Fas-mediated apoptosis. *Microbes Infect.* (2002) 4:821-827.
57. Perfettini, J.L., Darville, T., Dautry-Varsat, A., Rank, R.G. & Ojcius, D.M. Inhibition of apoptosis by gamma interferon in cells and mice infected with *Chlamydia muridarum* (the mouse pneumonitis strain of *Chlamydia trachomatis*). *Infect. Immun.* (2002) 70:2559-2565.
58. Jungas, T., Motta, I., Duffieux, F., Fanen, P., Stoven, V. & Ojcius, D.M. Glutathione levels and BAX activation during apoptosis due to oxidative stress in cells expressing wild-type and mutant cystic fibrosis transmembrane conductance regulator. *J. Biol. Chem.* (2002) 277:27912-27918.
59. Boya, P., Andreau, K., Poncet, D., Zamzami, N., Perfettini, J.L., Metivier, D., Ojcius, D.M., Jaattela, M. & Kroemer, G. Lysosomal membrane permeabilization induces cell death in a mitochondrion-dependent fashion. *J. Exp. Med.* (2003) 197:1323-1334.
60. Perfettini, J.L., Ojcius, D.M., Andrews, C.W., Korsmeyer, S., Rank, R.G. & Darville, T. Role of proapoptotic BAX in propagation of *Chlamydia muridarum* (the mouse pneumonitis strain of *Chlamydia trachomatis*) and the host inflammatory response. *J. Biol. Chem.* (2003) 278:9496-9502.
61. Lupu, M., Ojcius, D., Perfettini, J.L., Patry, J., Dimicoli, J.L. & Mispelter, J. Changes of sodium ion compartmentalization in biological systems due to pathological states. An NMR study. *Biochimie* (2003) 85:849-861.
62. Darville, T., Yedgar, S., Krinsky, M., Andrews, C.W., Jungas, T. & Ojcius, D.M. Protection against *Chlamydia trachomatis* infection in vitro and modulation of inflammatory response in vivo by membrane-associated glycosaminoglycans. *Microbes Infect.* (2004) 6:369-376.
63. Mascarell, L., Auger, R., Alcover, A., Ojcius, D.M., Jungas, T., Cadet-Daniel, V., Kanellopoulos, J. & Truffa-Bacchi, P. Characterization of a gene encoding two isoforms of a mitochondrial protein upregulated by cyclosporin A in activated T cells. *J. Biol. Chem.* (2003) 279:10556-10563.
64. Coutinho-Silva, R., Stahl, L., Raymond, M.N., Jungas, T., Burnstock, G., Darville, T. & Ojcius, D.M. Inhibition of chlamydial infectious activity due to P2X<sub>7</sub> receptor-dependent phospholipase D activation. *Immunity* (2003) 19:403-412.
65. Darville, T., O'Neill, J.M., Andrews, C.W., Nagarajan, U.M., Stahl, L. & Ojcius, D.M. Toll-like receptor-2, but not Toll-like receptor-4, is essential for development of oviduct pathology in chlamydial genital tract infection. *J. Immunol.* (2003) 171:6187-6197.
66. Pajot, A., Pancre, V., Fazilleau, N., Michel, M.L., Angyalosi, G., Ojcius, D.M., Auriault, C., Lemonnier, F.A. & Lone, Y.C. Comparison of HLA-DR1-directed T cell response induced in HLA-DR1 transgenic mice deficient for murine MHC class II and



HLA-DR1 transgenic mice expressing endogenous murine MHC class II molecules. *Int. Immunol.* (2004) 16:1275-1282.

67. Choi, S.J., Parent, R., Guillaume, C., Deregnacourt, C., Delarbre, C., Ojcius, D.M., Montagne, J.J., Celerier, M.L., Phelipot, A., Amiche, M., Molgo, J., Camadro, J.M. & Guette, C. Isolation and characterization of Psalmopeotoxin I and II: two novel antimalarial peptides from the venom of the tarantula *Psalmopoeus cambridgei*. *FEBS Lett.* (2004) 572:109-117.

68. Pajot, A., Michel, M.L., Fazilleau, N., Pancre, V., Auriault, C., Ojcius, D.M., Lemonnier, F.A. & Lone, Y.C. A mouse model of human adaptive immune functions: HLA-A2.1-HLA-DR1-transgenic H-2 class I-/class II-knockout mice. *Eur. J. Immunol.* (2004) 34:3060-3069.

69. Yilmaz, O., Jungas, T., Verbeke, P. & Ojcius, D.M. Activation of the phosphatidylinositol 3-kinase/Akt pathway contributes to survival of primary epithelial cells infected with the periodontal pathogen *Porphyromonas gingivalis*. *Infect. Immun.* (2004) 72:3743-3751.

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71. Coutinho-Silva, R., Stahl, L., Cheung, K.K., de Campus N.E., de Oliveira Souza, C., Ojcius, D.M. & Burnstock, G. P2X and P2Y purinergic receptors on human intestinal epithelial carcinoma cells: effects of extracellular nucleotides on apoptosis and cell proliferation. *Am. J. Physiol.* (2005) 288:G1024-1034.

72. Coutinho-Silva, R., Ojcius, D.M., Górecki, D.C., Persechini, P.M., Bisaggio, R.C., Mendes, A.N., Marks, J., Burnstock, G. & Dunn, P.M. Multiple P2X and P2Y receptor subtypes in mouse J774, spleen and peritoneal macrophages. *Biochem. Pharmacol.* (2005) 69:641-655.

73. Auger, R., Motta, I., Benihoud, K., Ojcius, D.M. & Kanellopoulos, J.M. A role for mitogen-activated protein kinase(Erk1/2) activation and non-selective pore formation in P2X7 receptor-mediated thymocyte death. *J. Biol. Chem.* (2005) 280:28142-28151.

74. Nagarajan, U.M., Ojcius, D.M., Stahl, L., Rank, R.G. & Darville, T. *Chlamydia trachomatis* induces expression of IFN- $\gamma$ -inducible protein 10 and IFN- $\beta$  independent of TLR2 and TLR4, but largely dependent on MyD88. *J. Immunol.* (2005) 175:45-460.

75. Chen, L.L., Wu, Y.M., Yan, J., Sun, W.L., Sun, Y.Z. & Ojcius, D.M. Association between coinfection of *Porphyromonas gingivalis*, *Actinobacillus actinomycetemcomitans* and *Treponema denticola* and periodontal tissue destruction in chronic periodontitis. *Chin. Med. J.* (2005) 118:915-921.

76. Monteiro da Cruz, C.M., Ventura, A.L., Schachter, J., Costa-Junior, H.M., da Silva Souza, H.A., Gomes, F.R., Coutinho-Silva, R., Ojcius, D.M. & Persechini, P.M. Activation of ERK1/2 by extracellular nucleotides in macrophages is mediated by multiple P2 receptors independently of P2X(7)-associated pore or channel formation. *Brit. J. Pharmacol.* (2006) 147:324-334.

77. Yilmaz, O., Verbeke, P., Lamont, R.J. & Ojcius, D.M. Intercellular spreading of *Porphyromonas gingivalis* infection in primary gingival epithelial cells. *Infect. Immun.* (2006) 74:703-710.
78. Welter-Stahl, L., Ojcius, D.M., Viala, J., Girardin, S., Liu, W., Delarbre, C., Philpott, D., Kelley, K.A. & Darville, T. Stimulation of the cytosolic receptor for peptidoglycan, Nod1, by infection with *Chlamydia trachomatis* or *Chlamydia muridarum*. *Cell. Microbiol.* (2006) 8:1047-1057.
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