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Curriculum Vitae
of
Riccardo Manganelli

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RICCARDO MANGANELLI (RM), was born in Siena on July 26th 1965. Resident in Padova, (Italy) Via Comino 117.

Present position: Full Professor of Technical Sciences of Laboratory Medicine (SSD MED/46) at the Department of Molecular Medicine, University of Padova.

He is a member of the following scientific societies: Società Italiana di Microbiologia (SIM), Società Italiana di Microbiologia Generale e Biotecnologie Microbiche (SIMGBM), American Society for Microbiology (ASM).

Education

-1988. Bachelor in Biology, University of Siena

-1995. PhD in Microbiology, University of Siena

Professional activity

-After the Bachelor Degree RM works at the Institute of Microbiology of the University of Verona (1989-1990) and at the Department of Molecular Biology of the University of Siena as **PhD STUDENT** (1990-1995).

-From November 1995 to September 1997: **RESEARCH ASSOCIATE** at the Department of Microbiology and Immunology, Bowman Grey School of Medicine, Wake Forest University, Winston-Salem, NC, USA

-From October 1997 to August 2000: **RESEARCH ASSOCIATE** at the TB Center of the Public Health Research Institute, New York, NY, USA

-From September 2000 to February 2016: **ASSOCIATE PROFESSOR** of Microbiology (SSD MED/07) at the School of Medicine of the University of Padova

-March 2016-present: **FULL PROFESSOR** of Technical Sciences of Laboratory Medicine (SSD MED/46) at the School of Medicine of the University of Padova

-2021-2022. **COORDINATOR** of the **PhD School in Molecular Medicine** of the University of Padova

-2023- **VICE DIRECTOR** of the Department of Molecular Medicine of the University of Padova

Research and Field of Interest

RM has principally worked in the fields of bacterial genetics and global regulation of gene expression. At the beginning of his career, RM studied conjugative transposons of Gram positive bacteria developing their biotechnological use. From 1995 to 2000 he was in the United States, first in North Carolina (2 years) and then in New York (3 years). During the period spent in New York, RM research focused on *Mycobacterium tuberculosis* (*Mtb*) with his main interest the relationship between virulence and global regulation of transcription. Beyond the interest in transcription factors and their role in *Mtb* physiology and pathogenicity, RM is interested in developing genetic tools to manipulate *Mtb* genome, to facilitate the discovery of new antitubercular drugs and vaccines.

He authored more than 100 papers on peer reviewed scientific journals
Researcher ID: A-7361-2009
Scopus ID: 7004240185
Orcid ID: orcid.org/0000-0003-0940-7336

Citation metrics

Total Citations 7071
Average Citations/article: 58
h-index: 45
(source: Scopus)

Teaching experience

Courses taught by RM:

- 2000-present. **Microbiology**, Degree in Medicine and Surgery, University of Padova.
- 2004-2012. Microbiological Analyses, Degree in Biomedical Laboratory Techniques, University of Padova.
- 2011. **Biomedical Analyses**, Degree in Biomedical Laboratory Techniques, University of Padova.
- 2011-2015. **Functional Genomics**, Degree in Medicine and Surgery, University of Padova.
- 2012-presente. **Bacteriological Techniques**, Specialization School in Microbiology and Virology, University of Padova.
- 2012-present. **Microbiology, Virology and Parassitology Applied to Medicine** Degree in Biomedical Laboratory Techniques, University of Padova.

Clinical experience

RM performs his clinical activity from the year 2000 at the Unit of Microbiology and Virology of the Hospital of Padova.

Molecular diagnostics. RM contributes to the development, management, reporting and consulence of the Molecular Biology tests provided by the Unit of Microbiology and Virology.

Mycobacterial diagnostics. RM contributes to the management of the mycobacterial diagnostic laboratory with particular attention to the development and interpretation of molecular typing tests.

Other activity. *i)* molecular typing of multidrug resistant microorganism correlated to local outbreaks *ii)* characterization of emerging molecular determinants responsible of drug resistance.

Funds raising

- PRIN: as local coordinator: 2001, 2002, 2003; as national coordinator: 2006
- Progetto Nazionale AIDS (Istituto superiore di Sanità): 2001, 2003
- Intramural projects, University of Padua: (2004)

-FP6 (European projects): Partner: 2006 (NM4TB), 2007 (INNOVAC); coordinator: 2007 (MYCOMANCY)
-FP7 (European projects): Partner: 2008 (TB-NOVSEC), 2009 (NEWTBVAC), 2011 (MM4TB)
-Horizon 2020 (European projects): Partner 2018 (ARREST-TB). Partner 2020 (ERA4TB)

Collaborations

RM collaborates with various national and foreign scientists. Moreover, he still closely collaborates with Dr. Issar Smith, one of the major experts of regulation of gene expression and pathogenicity of mycobacteria in whose lab RM worked for 3 years.

I. Smith (Public Health Research Institute, NJ, USA); L. Gaudreau (University of Sherbrook, Quebec, Canada); F. Falciani (University of Birmingham, UK); G. Delogu (Università Cattolica, Roma); R. Riccardi (Università di Pavia); D. Ghisotti (Università di Milano); L. Fattorini (Istituto Superiore di Sanità, Roma); S. Cutting (Royal Holloway, UK); M. Vicente (CNB, Madrid, Spagna); R. Hernandez-Pando (Istituto Salvador Zubiran, Mexico City, Mexico), Stewart Cole, (EPFL, Lausanne, Switzerland); Roland Brosch (Institute Pasteur, Paris, France)

Editorial activity

RM is a Senior Editor of *Microbiology*-SGM, Academic Editor of *PLoS ONE* and part of the Advisory board of *Molecular Microbiology*.

Publications

Book chapters

1. **Pozzi, G., M.R. Oggioni, R. Manganelli, P. Plevani.** (1990) Genetic exchange and heterologous gene expression in streptococci: the bacterial chromosome as vector of recombinant DNA molecules. In F. Amaldi, De Felice M., Di Fonzo N., Merlin P., Polsinelli M., and Viotti A. (eds.), *Recombinant DNA Technologies in Industry and Agriculture: State of the art in Italy*. Amity Rassegna Scientifica, Milano (Italy), pp. 45-48.
2. **Pozzi, G., M.R. Oggioni, R. Manganelli, P. Plevani.** (1991) Genetic manipulation of streptococci by chromosomal integration of recombinant DNA. In G.M. Dunny, P.P. Cleary and L.L. McKay (eds.), *Genetics and Molecular Biology of Streptococci, Lactococci, and Enterococci*. American Society for Microbiology, Washington, pp. 59-61.
3. **Oggioni, M.R., R. Manganelli, P. Plevani, V.A. Fischetti, G. Pozzi.** (1992) Expression of M6 protein of *Streptococcus pyogenes* on the surface of *Streptococcus gordonii* Challis. In G. Orefici (ed.), *New Perspectives on Streptococci and Streptococcal Infections*, *Zentralblatt für Bakteriologie Suppl.*, 22, pp. 350-352.
4. **Manganelli, R., M.R. Oggioni, G. Pozzi.** (1992) A Tn916-like element integrated into the conjugative transposon Tn5253. In G. Orefici (ed.), *New Perspectives on Streptococci and Streptococcal Infections*, *Zentralblatt für Bakteriologie Suppl.*, 22, pp. 390-391.
5. **Berner, C., R. Manganelli, R. Mancini, G. Pozzi.** (1994) Chromosomal integration of heterologous plasmid DNA in *Enterococcus faecalis*. In A. Totolian (ed.), *Pathogenic Streptococci: Present and Future*. Lancer Publications, St. Petersburg, Russia, pp. 237-239.

6. **Ricci, M.L., R. Manganelli, C. Berneri, G. Orefici, G. Pozzi.** (1994) Parameters for electrotransformation of *Streptococcus agalactiae*. In A. Totolian (ed.), Pathogenic Streptococci: Present and Future. Lancer Publications, St. Petersburg, Russia, pp. 268-269.
7. **Manganelli, R., R. Provvedi, G. Pozzi.** (1994) Vectors for integration of heterologous DNA into conjugative transposons. In A. Totolian (ed.), Pathogenic Streptococci: Present and Future. Lancer Publications, St. Petersburg, Russia, pp. 270-271.
8. **Medaglini, D., S. Ricci, T. Maggi, C.M. Rush, R. Manganelli, M.R. Oggioni, G. Pozzi.** (1997) Recombinant Gram-positive bacteria as vehicles of vaccine antigens. *Biotech. An. Rev.* **3**: 297-311.
9. **Manganelli, R., S. Tyagi, I. Smith.** (2001). Real Time PCR using Molecular Beacons: a new tool to identify point mutations and to analyze gene expression in *Mycobacterium tuberculosis*. In (T. Parish and N. Stoker Eds) *Mycobacterium tuberculosis* protocols. Humana press, Totowa, NJ, pp. 295-310.
10. **Raman, S., Cascioferro, A., Husson, R., Manganelli, R.** (2008). Mycobacterial sigma factors and surface biology, In (M. Daffè and J.-M. Reyrat Eds) The Mycobacterial envelope. ASM press, Washington (DC), pp.223-234.
11. **Provvedi, R., Palù, G., Manganelli, R.** (2008). Use of DNA microarrays to study global patterns of gene expression. In (T. Parish and A.C. Brown Eds) *Mycobacteria* protocols, 2nd Edition. Humana press, Totowa, NJ, pp 95-110.
12. **Manganelli, R.** (2014) Sigma factors: key molecules in *Mycobacterium tuberculosis* physiology and virulence. In (G.F. Hatfull and W.R. Jacobs Eds) Molecular Genetics of Mycobacteria, 2nd Edition. ASM press, Washington (DC), pp 137-170. Published also on *Microbiol Spectrum* 2(1):MGM2-0007-2013. doi:10.1128/microbiolspec. MGM2-0007-2013.
13. **Delogu G., Brennan M.J., Manganelli R.** (2017) PE and PPE Genes: A Tale of Conservation and Diversity. In: Gagneux S. (eds) Strain Variation in the *Mycobacterium tuberculosis* Complex: Its Role in Biology, Epidemiology and Control. *Adv Exp Med Biol*, vol 1019. Springer, Cham.
14. **Boldrin, F., Manganelli, R.** (2022) Repressible Promoter System to Study Essential Genes in Mycobacteria *Methods in Molecular Biology*, 2377:317–332

Articles on peer-reviewed journals

1. **Baldi, F., G. Coratza, G., R. Manganelli, G. Pozzi.** (1988) A strain of *Pseudomonas putida* isolated from a cinnabar mine with a plasmid-determined broad-spectrum resistance to mercury. *Microbios* **54**: 7-13.
2. **Pozzi, G., R.A. Musmanno, P.M.-J. Lievens, M.R. Oggioni, P. Plevani, R. Manganelli.** (1990) Method and parameters for genetic transformation of *Streptococcus sanguis* Challis. *Res. Microbiol.* **141**: 659-670.
3. **Pozzi, G., M.R. Oggioni, R. Manganelli, V.A. Fischetti.** (1992) Expression of M6 protein gene of *Streptococcus pyogenes* in *Streptococcus gordonii* after chromosomal integration and transcriptional fusion. *Res. Microbiol.* **143**: 449-457.
4. **Pozzi, G., M. Contorni, M.R. Oggioni, R. Manganelli, M. Tommasino, F. Cavalieri, V.A. Fischetti.** (1992) Delivery and expression of a heterologous antigen on the surface of streptococci. *Infect. Immun.* **60**: 1902-1907.
5. **Ricci, M.L., R. Manganelli, C. Berneri, G. Orefici, G. Pozzi.** (1994) Electrotransformation of *Streptococcus agalactiae* with plasmid DNA. *FEMS Microbiol. Lett.* **119**: 47-52.
6. **Pozzi, G., M.R. Oggioni, R. Manganelli, D. Medaglini, V.A. Fischetti, D. Fenoglio, M.T. Valle, A. Kunkl, F. Manca.** (1994) Human T-helper cell recognition of an immunodominant

epitope of HIV-1 gp120 expressed on the surface of *Streptococcus gordonii*. *Vaccine* **12**: 1071-1077.

7. **Oggioni, M.R., R. Manganelli, M. Contorni, M. Tommasino, G. Pozzi.** (1995) Immunization of mice by oral colonization with live recombinant commensal streptococci. *Vaccine* **13**: 775-779.
8. **Manganelli, R., L. Romano, S. Ricci, M. Zazzi, G. Pozzi.** (1995) Dosage of Tn916 circular intermediates in *Enterococcus faecalis*. *Plasmid* **34**: 48-57.
9. **Provvedi, R., R. Manganelli, G. Pozzi.** (1996) Characterization of conjugative transposon Tn5251 of *Streptococcus pneumoniae*. *FEMS Microbiol. Lett.* **135**: 231-236.
10. **Manganelli, R., S. Ricci, G. Pozzi.** (1996) Conjugative transposon Tn916: evidence for excision with formation of 5'-protruding termini. *J. Bacteriol.* **178**: 5813-5816.
11. **Pozzi, G., L. Masala, F. Iannelli, R. Manganelli, L.S. Harvastein, L. Piccoli, D. Simon, D.A. Morrison.** (1996) Competence for genetic transformation in encapsulated strains of *Streptococcus pneumoniae*: two allelic variants of the peptide pheromone. *J. Bacteriol.* **178**: 6087-6090.
12. **Manganelli, R., S. Ricci, G. Pozzi.** (1997) The Joint of Tn916 Circular Intermediates is a Homoduplex in *Enterococcus faecalis*. *Plasmid* **38**: 71-78.
13. **Manganelli, R., R. Provvedi, C. Berneri, M.R. Oggioni, G. Pozzi.** (1998) Insertion vectors for construction of recombinant conjugative transposons in *Bacillus subtilis* and *Enterococcus faecalis*. *FEMS Microbiol. Lett.* **168**: 259-268.
14. **Smith, I., O. Dussurget, J. Timm, M. Gomez, J. Dubnau, B. Gold, R. Manganelli.** (1998) Extra and intracellular expression of *Mycobacterium tuberculosis* genes. *Tuber. Lung Dis.* **79**: 91-97.
15. **Manganelli, R., and I. van de Rijn.** (1999) Characterization of *emb*, the gene encoding the major adhesin of *Streptococcus defectivus*. *Infect. Immun.* **67**: 50-56.
16. **Manganelli, R., E. Dubnau, S. Tyagi, F.R. Kramer, I. Smith.** (1999). Differential expression of 10 sigma factor genes in *Mycobacterium tuberculosis*. *Mol. Microbiol.* **31**: 715-724.
17. **Ricci, S., D. Medaglini, C.M. Rush, A. Marcello, S. Peppoloni, R. Manganelli, G. Palú, G. Pozzi.** (2000). Immunogenicity of the B monomer of *Escherichia coli* heat-labile toxin expressed on the surface of *Streptococcus gordonii*. *Infect. Immun.* **68**: 760-766.
18. **Manganelli, R., Voskuil, M.I., Schoolnik, G.K., Smith I.** (2001). The *Mycobacterium tuberculosis* ECF sigma factor σ^E : role in global gene expression and survival in macrophages. *Mol. Microbiol.* **41**:423-437.
19. **Dubnau, E., Fontàn, P., Manganelli R., Soares-Appel, S., Smith I.** (2002). *Mycobacterium tuberculosis* genes induced during infection of human macrophages. *Infect. Immun.* **70**:2787-2795.
20. **Raynaud, C., Guilhot, C., Rauzier, J., Bordat, Y., Pelicic, V., Manganelli, R., Smith, I., Gicquel, B., Jackson, M.** (2002). Phospholipases C are involved in the virulence of *Mycobacterium tuberculosis*. *Mol. Microbiol.* **45**:203-217.
21. **Manganelli, R., Voskuil, M., Schoolnik, G.K., Dubnau, E., Gomez, M, Smith I.** (2002). Role of the extracytoplasmic-function sigma factor σ^H in *Mycobacterium tuberculosis* global gene expression. *Mol. Microbiol.* **45**:356-374.
22. **Guiotto, A., Pozzobon, M., Canevari, M., Manganelli, R., M., Scarin, M., and Veronese F.M.** (2003). PEGylation of the antimicrobial peptide nisin A: problems and perspectives. *Farmaco* **58**:45-50.
23. **Timm, J., Post, F.A., Bekker, L.G., Walther, G.B., Wainwright, H.C., Manganelli, R., Chan, W.T., Tsenova, L., Bertgold, A., Gold, B., Smith, I., Kaplan, G., and McKinney, J.D.** (2003). Differential expression of iron-, carbon-, and oxygen-responsive mycobacterial genes in the lungs of chronically infected mice and tuberculosis patients. *Proc. Natl. Acad. Sci. USA* **100**:14321-14326.

24. **Manganelli, R., Provvedi, R., Rodrigue, S., Beaucher, J., Gaudreau, L., and Smith, I.** (2004). Sigma factors and global gene regulation in *Mycobacterium tuberculosis*. *J. Bacteriol.* **186**:895-902.
25. **Manganelli, R., Fattorini, L., Tan, D., Iona, E., Orefici, G., Altavilla, G., Cusatelli, P., and Smith, I.** (2004). The extra cytoplasmic function sigma factor $\square^E$ is essential for *Mycobacterium tuberculosis* virulence in mice. *Infect. Immun.* **72**:3038-3041.
26. **Provvedi, R., Maggi, T., Oggioni, M.R., Manganelli, R., and Pozzi, G.** (2005). Selection and characterization of a promoter for expression of single copy recombinant genes in Gram-positive bacteria. *BMC-Biotechnology* **5**:3.
27. **Castagliuolo, I., Beggiao, E., Brun, P., Barzon, L., Manganelli, R., Goussard, S., Grilot-Courvalain, C., and Palù, G.** (2005). Engineered *E. coli* delivers therapeutic genes to the colonic mucosa. *Gen. Ther.* **12**:1070-1078.
28. **Dainese, E., Rodrigue, S., Delogu, G., Provvedi, R., Laflamme, L., Brzezinski, R., Fadda, G., Smith, I., Gaudreau, L., Palù, G., Manganelli, R.** (2006). Posttranslational regulation of *Mycobacterium tuberculosis* extracytoplasmic-functions sigma factor $\square^L$ and role in virulence and in global regulation of gene expression. *Infect. Immun.* **74**:2457-2461.
29. **Giacomini, E., Sotolongo, A., Iona, E., Severa, M., Remoli, M.E., Gafa, V., Lande, R., Fattorini, L., Smith, I., Manganelli, R., Coccia, E.M.** (2006). The infection of human dendritic cells with a *Mycobacterium tuberculosis sigE* mutant stimulates a high production of IL-10 and a low expression of CXCL10: impact on T cell response. *Infect. Immun.* **74**:3296-3304.
30. **Kraniotaki, E., Manganelli, R., Platsouka, E., Grossato, A., Paniara, O., Palù, G.** (2006). Molecular investigation of an outbreak of multi-drug resistant *Acinetobacter baumannii* with prevalence of class 1 integrons. *Int. J. Antimicrob. Ag.* **28**:193-199.
31. **Rodrigue, S., Provvedi, R., Jaques, P.-E., Gaudreau, L., Manganelli, R.** (2006). The $\square$ factors of *Mycobacterium tuberculosis*. *FEMS Microbiol. Rev.* **30**:926-941.
32. **Maciag, A., Dainese, E., Rodriguez, G.M., Milano, A., Provvedi, R., Pasca, M.R., Smith, I., Palù, G., Riccardi, G., Manganelli, R.** (2007) Global analysis of the *Mycobacterium tuberculosis* Zur (FurB) regulon. *J. Bacteriol.* **189**:730-740.
33. **Gherardi, G., Fallico, L., Del Grosso, M., Bonanni, F., D'Ambrosio, F., Manganelli, R., Palù, G., Dicuonzo, G., Pantosti, A.** (2007) Antibiotic-resistant invasive pneumococcal clones in Italy. *J. Clin. Microbiol.* **45**:306-312.
34. **Manganelli, R.** (2007) Polyphosphate and stress response in mycobacteria. *Mol. Microbiol.* **65**:258-260.
35. **Cascioferro, A., Delogu, G., Colone, M., Sali, M., Stringaro, A., Arancia, G., Fadda, G., Palù, G., Manganelli, R.** (2007) PE is a functional domain responsible for protein translocation and localization on mycobacterial cell wall. *Mol. Microbiol.* **66**:1536-1547.
36. **Brun, P., Zumbo, A., Castagliuolo, I., Delogu, G., Manfrin, F., Sali, M., Fadda, G., Grillot-Courvalin, C., Palù, G., Manganelli, R.** (2008) Intranasal delivery of DNA encoding antigens of *Mycobacterium tuberculosis* by non-pathogenic invasive *Escherichia coli*. *Vaccine* **26**:1934-1941.
37. **Cesaro, S., Stenghele, C., Calore, E., Franchin, E., Cerbaro, I., Cusinato, R., Tridello, G., Manganelli, R., Carli, M., Palù, G.** (2008). Assessment of the lightcycler PCR assay for diagnosis of invasive aspergillosis in paediatric patients with onco-haematological diseases. *Mycoses.* **51**:497-504.
38. **Donà, V., Rodrigue, S., Dainese, E., Palù, G., Gaudreau, L., Manganelli, R., Provvedi, R.** (2008). Evidence of complex transcriptional, translational and posttranslational regulation of the ECF sigma factor SigE in *Mycobacterium tuberculosis*. *J. Bacteriol.* **190**:5963-5971.
39. **Provvedi, R., Kocincová, D., Donà, V., Euphrasie, D., Daffé, M., Etienne, G., Manganelli, R., Reytrat, J.-M.** (2008). SigF controls carotenoid pigment production and affects transformation efficiency in *Mycobacterium smegmatis*. *J. Bacteriol.* **190**:7859-7863.

40. Milano, A., Pasca, M.R., Provvedi, R., Lucarelli, A.P., Manina, G., de Jesus Lopes Ribeiro, A.L., Manganelli, R., Riccardi, G. (2009). Azole resistance in *Mycobacterium tuberculosis* is mediated by the MmpS5-MmpL5 efflux system. *Tuberculosis*, **89**:84-90.
41. Provvedi, R., Boldrin, F., Falciani, F., Palù, G., Manganelli, R. (2009). Global transcriptional response to vancomycin in *Mycobacterium tuberculosis*. *Microbiology*, **155**:1093-1102.
42. Fontà, P.A., Voskuil, M.I., Gomez, M., Tan, D., Pardini, M., Manganelli, R., Fattorini, L., Schoolnik, G.K., Smith, I. (2009). The *Mycobacterium tuberculosis* sigma factor SigB is required for full response to cell envelope stress and hypoxia in vitro but it is dispensable for in vivo growth. *J. Bacteriol.* **191**: 5628-5633.
43. Serafini, A., Boldrin, F., Palù, G., Manganelli, R. (2009). Characterization of a *Mycobacterium tuberculosis* ESX-3 conditional mutant: essentiality and rescue by Iron and Zinc. *J. Bacteriol.* **191**:6340-6344.
44. Gola, S., Manganelli, R., Garcia, M.J., Vicente, M. (2009). News from the antituberculosis front at two recent European meetings. *World J. Microbiol. Biotechnol.* **25**:1129–1143.
45. Manganelli, R., and Provvedi, R. (2010) An integrated regulatory network including two positive feedback loops to modulate the activity of σ^E in mycobacteria. *Mol. Microbiol.* **75**:538-542.
46. Richter, S.N., Frasson, I., Bergo, C., Manganelli, R., Cavallaro, A., Palù, G. (2010) Characterisation of *qnr* plasmid-mediated quinolone resistance in Enterobacteriaceae from Italy: association of the *qnrB19* allele with the integron element ISCR1 in *Escherichia coli*. *Int. J. Antimicrob. Ag.* **35**:578-583.
47. Boldrin, F., Casonato, S., Dainese, E., Sala, C., Dhar, N., Palù, G., Riccardi, G., Cole, S.T., Manganelli, R. (2010) Development of a repressible mycobacterial promoter system based on two transcriptional repressors. *Nucleic Acids Res.* **38**:e134.
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49. Cascioferro, A., Serafini, A., Boldrin, F., Provvedi, R., Palù, G., Manganelli, R. (2010) Xer-site-specific recombination: an efficient tool to introduce unmarked deletions in mycobacteria. *Appl. Environ. Microbiol.* **76**:5312-5316.
50. Sali, M., Di Sante, G., Cascioferro, A., Zumbo, A., Nicolò, C., Donà, V., Rocca, S., Ria, F., Palù, G., Fadda, G., Manganelli, R., Delogu, G. (2010) Surface expression of MPT64 as a fusion with the PE domain of PE_PGRS33 enhances BCG protective activity against *Mycobacterium tuberculosis* in mice. *Infect. Immun.* **78**:5202-13.
51. Fallico, L., Boldrin, C., Grossato, A., Franchin, E., De Canale, E., Tommasini T., Parisi S.G., Manganelli, R., Palù, G. (2011) Molecular epidemiology of *Enterococcus faecium* isolates from an Italian hospital. *Infection* DOI: 10.1007/s15010-011-0086-8.
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53. Soldini, S., Palucci, I., Zumbo, A., Sali, M., Ria, F., Manganelli, R., Fadda, G., Delogu, G. (2011) PPE_MPTR genes are differentially expressed by *Mycobacterium tuberculosis* in vivo. *Tuberculosis*, **91**:563-568.
54. Cascioferro, A., Daleke, M.H., Ventura, M., Donà, V., Delogu, G., Palù, G., Bitter, W., Manganelli, R. (2011) Functional dissection of the PE domain responsible for translocation of PE_PGRS33 across the mycobacterial cell wall. *PLoS ONE*, **6**:e27713.
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56. Ramón-García, S., Mick, V., Dainese, E., Martin, C., Thompson, C.J., De Rossi, E., Manganelli, R., Aínsa, J.A. (2012) Functional and genetic characterization of the Tap efflux pump in *Mycobacterium bovis* BCG. *Antimicrob. Agents Chemother.* **56**:2074-2083.
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