

CURRICULUM VITAE

Personal details:

First Name: Daniele

Surname: Armenia

Date and place of birth: 16th August 1980 in Vittoria (Ragusa) - Italy

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Language known

Italian

English

Education

2005: Degree in Pharmaceutical Biotechnology (vote 110/110) at the University of Bologna

Thesis in Molecular Virology : Distribuzione e valenza clinica delle varianti genomiche gN di Citomegalovirus Umano (HCMV) in soggetti immunocompetenti e immunocompromessi (Human Cytomegalovirus gN Genotypes: Distribution and Clinical Relevance in Immunocompromised and Immunocompetent Hosts) – Supervisor: Paola Dal Monte

5 luglio 2010: PhD in “Medical microbiology and Immunology” at University of Rome “Tor Vergata”, Department of experimental medicine and biochemistry. Title of thesis : *"Impact of Integrase Polymorphisms and Minor Quasispecies in HIV-1 Infected Individuals Naive or Treated with Strand-transfer Integrase Inhibitors: a Refined Analysis by Cloning and 454-Pyrosequencing Techniques"*. Supervisors: Prof. Carlo Federico Perno and Dr. Francesca-Ceccherini Silbertstein

Work experiences:

(01/07/2018-01/12/2018) Research fellow at Faculty of Medicine and Surgery at University of Rome “Tor Vergata”, Via Montpellier, 1 00133, Rome.

(15/04/2016- 15/04/18) Research fellow at the Virology chair of the University of Rome "Tor Vergata" as part of the FIRB project RBAP11YS7K: Multidisciplinary study aimed at identifying and characterizing innovative markers able to define the role of hepatotropic viruses in the development of hepatocellular carcinoma: a model of encounter between basic and applicative research (responsible: Prof. Carlo Federico Perno). Role: Management and supervision of next generation sequencing data and management and analysis of clinical-virological databases. (15/04/15- 14/04/16) Research fellow at the chair of virology at University of Rome "Tor Vergata" for the project MIUR-PRIN2012- 2012L783TW_00 "Study of the determinants of secondary and primary resistance of HIV-1 to antiretroviral drugs" (responsible: Prof. Francesca Ceccherini-Silberstein). Role: Management and supervision of next generation sequencing data and management and analysis of clinical-virological databases.

(05/03/12-04/03/15) Research Fellow at the chair of virology at University of Rome "Tor Vergata" for the FIRB project RBAP11YS7K: "Multidisciplinary study aimed at the identification and characterization of innovative markers able to define the role of Hepatotropic viruses in the development of hepatocellular carcinoma: a model of encounter between basic and applicative research "(responsible: Prof. Carlo Federico Perno). Role: Management and supervision of next generation sequencing data and management and analysis of clinical-virological databases.

(31/07/11-04/03/12) Consulting for the project "Characterization of patients failing to DRV and impact on the subsequent regimen multi-center retrospective analysis" at the University of Rome "Tor Vergata", at the Laboratory of Virology of the Department of Experimental Medicine and Biochemical Sciences (Prof. Carlo Federico Perno) funded by the Italian Foundation for Antiviral

Studies and Research (AVIRALIA).

(01/04/2010- 30/07/2011) Scholarship from the University of Rome "Tor Vergata" for the project "Collaborative HIV and anti-HIV drug resistance network (CHAIN)".

(07/11/2010-03/12/2010) Research collaboration to performing recombinant HIV-1 mutant strains by site-specific mutagenesis at the Virology Laboratory at the "Pitié-Salpêtrière" hospital in Paris

(06/07/2007- 30/09/2007) Research collaboration to performing recombinant HIV-1 strains at Virology Laboratory of "Virco BVBA" company – Mechelen (Belgium) to evaluate the phenotype of viral clones deriving from infected HIV-1 patients.

(01/11/2006-31/10/2009) PhD scholarship from the University of Rome "Tor Vergata"

Teaching

2016-today: Visiting professor of Virology at faculty of Medicine and Surgery at University of Tirana "Nostra Signora del buon consiglio", Tirana, Albania.

2012-2018: Integrative lessons of clinical microbiology and virology at University of L'Aquila, L'Aquila, Italy, at course of study of Health biology and nutrition, faculty of Science.

2011-2018: Integrative lessons of virology at University of Rome "Tor Vergata", Rome, Italy, at course of study "Diagnostic techniques for biomedical laboratory" faculty of Medicine and Surgery.

2011-2018: Integrative lessons of virology at University of Rome "Tor Vergata", Rome, Italy, at post-graduation course of microbiology and virology, faculty of Medicine and Surgery.

2011-2018: Integrative lessons of virology at University of Rome "Tor Vergata", Rome, Italy, at course of study of Medical biotechnology, faculty of Medicine and Surgery.

2009-2011: Integrative lessons of virology at University of L'Aquila, L'Aquila Italy at course of study of Biology, faculty of Science.

Courses:

- April 2007 : "Basics of Biostatistics" at the University of Rome "Tor Vergata" (Department of Mathematics) - Rome.
- September 2007 : "Introduction to Bioinformatics for molecular-epidemiologic analyses in HIV virology" at the "Istituto superiore di Sanità" - Rome.
- June 2008 : "Biological Networks: Evolution, Interaction and Computation" summer school, Lipari Island - Messina.
- October 2008: "How to use CCR5 Antagonist in clinical practice" at Rome organized by Virology Education B.V – Biltstraat 106 – 3572 BJ Utrecht - The Netherland.
- July 2009: "Advanced programming in ansi SQL" organized at University of Rome "Tor Vergata" by Be Smart S.r.l., Via delle Sette Chiese 278 – 00147 Roma.
- November 2011: Training course for 454-Junior Roche platform usage organized at University of Rome "Tor Vergata" by Roche Diagnostic S.p.A. Viale G.B Stucchi, 110 20900 Monza (MB)
- February 2012: Bioinformatics' course for the analysis of 454-pyrosequencing data from GS-454 Junior platform organized by Roche Diagnostic S.p.A. Viale G.B Stucchi, 110 20900 Monza (MB).

Scientific Activity:

The research activity carried out to date is relative to the following projects:

- Production of HIV-1 mutant strains through specific site and recombinant HIV-1 mutations containing specific patient regions.
- Studies of phenotypic susceptibility under pharmacological pressure and viral fitness studies of mutated and / or recombined HIV-1 strains.
- Analysis of HIV mutations associated to viro-immunological parameters, antiretroviral therapy and disease progression in order to: i) characterize viro-immunological parameters predictive of disease progression, ii) define marker markers of disease progression.
- Characterization of the areas of the genome and HIV proteins that, due to their peculiar characteristics, may constitute new targets for antiviral drugs.
- Characterization of mutations associated with resistance to anti-HIV drugs currently used in clinical and experimental practice. The characterization of these mutations and their role in drug-resistance is of considerable clinical relevance as it allows to improve the prediction of the antiretroviral drug response. It also contributes to a better assessment of the effectiveness of new generation drugs.
- Study and genetic characterization of HIV, HBV and HCV with the high-throughput sequencing method 454-pyrosequencing: study of the appearance and disappearance of mutations associated with resistance to antiviral drugs and / or genetic variants related to the response to antiviral therapy or virulence.
- Collection and analysis of data for cohort studies at national and European level for the evaluation of prognostic factors of failure to antiretroviral therapy.

The scientific activity carried out consists also in the management and population of a database in which data related to the genotypic resistance test carried out on patients with documented HIV disease converge in order to conduct studies on drug resistance and related problems.

During these years Dr. Armenia worked abroad for collaborations with pharmaceutical-diagnostic companies (Virco BVBA, Beerse, Belgium) and European clinical centers (Pitié-Salpêtrière Hospital).

Awards:

- Best Oral presentation at 2nd European HIV Clinical Forum: Integrase Inhibitors, 22 October 2016, Glasgow, United Kingdom. (Speaker)
- Best poster presentation at XIV European HIV & Hepatitis workshop, 25-27 May 2016, Rome (co-author)
- ICAR – CROI Awards 2015 for the Italian Scientific Research: CROI affiliated event for Italian young investigators; CROI Seattle, USA, 3-5 February 23-26, 2015 (First author).
- Best poster presentation at 6th Italian Conference on AIDS and Retroviruses, Rome, Italy, 25-27 May, 2014 (co-author).
- Best poster presentation at 3rd Italian Conference on AIDS and Retroviruses, Florence, Italy, 27-29 March, 2011 (co-author).
- Best poster presentation at 1st Italian Conference on AIDS and Retroviruses, Milan 24-26 May 2009 (co-author).

Laboratory experiences:

In addition to the basic laboratory procedures, the undersigned has acquired over the years a mastery of various methods in various sectors useful for microbiology.

In Molecular Biology and Microbiology:

Polymerase Chain Reaction (Touchdown, RT-PCR, Nested)

DNA and RNA Extraction

DNA Sequencing by Sanger Population Assay

Site specific mutagenesis (Bacterial Transformation, Mini and Midi DNA preparations, Eukaryotic Cloning and Transfection)

Cellular Biology:

Cells Culture (COS-7, HeLa, U2OS, Jurkat, MT-4),

Lymphocyte-Monocyte Separation from peripheral blood and/or buffy-coat samples (Ficoll, CD14 Microbeads Miltenyi Kit);

In Informatics, Bioinformatics and Biostatistics:

DNA and protein sequence analyses from HIV-1 and B and C Hepatitis viruses (Integrative Genomics viewer (IGV), Emboss package, Bioedit, Mega 5.0, ClustalX , SeqScape v.2.5 AppliedBiosystems, Amplicon Variant Analyzer Roche, Gs-Denovo Roche, GS-Mapper Roche, Exonerate package, Shorah package, Segminator 1.1)

Bio-statistical analyses for clinical multicentre cohorts studies evaluating efficacy of antivirals drugs and evolution/development of drug resistance (Logistic Regression, Linear Regression, Survival analyses, parametric and non-parametric tests, Cluster analyses by using SPSS 19 and R 2.15 programs)

Basic usage of Unix systems (Ubuntu 12.04, Fedora)

Current use of MS Office 2016, Mozilla Firefox, Thunderbird.

Publications

Papers in international journals (*indicates first name coauthorship)

1. F. Marino-Merlo, B. Macchi, **D. Armenia**, M.C. Bellocchi, F. Ceccherini-Silberstein, A. Mastino, S. Grelli, Focus on recently developed assays for detection of resistance/sensitivity to reverse transcriptase inhibitors., *Appl. Microbiol. Biotechnol.* (2018). doi:10.1007/s00253-018-9390-x IF: 3.340.
2. **Armenia D.**, Zaccarelli M., Borghi V., Gennari W., Di Carlo D., Giannetti A., Forbici F., Bertoli A., Gori C., Fabeni L., Pinnetti C., Marocco R., Latini A., Ceccherini-Silberstein F., Mastroianni C.M., Mussini C., Antinori A., Perno C.F., Santoro M.M. 2018. Resistance detected in PBMCs predicts virological rebound in HIV-1 suppressed patients switching treatment. *Journal of Clinical Virology* <https://doi.org/10.1016/j.jcv.2018.04.001>. IF: 3.051
3. Fokam, J., Bellocchi, M. C., **Armenia, D.**, Nanfack, A. J., Carioti, L., Continenza, F., Takou, D., Temgoua, E. S., Tangimpundu, C., Torimiro, J. N., Koki, P. N., Fokunang, C. N., Cappelli, G., Ndjolo, A., Colizzi, V., Ceccherini-Silberstein, F., Perno, C.-F. and Santoro, M. M. 2018. 'Next-generation sequencing provides an added value in determining drug resistance and viral tropism in Cameroonian HIV-1 vertically infected children', *Medicine*, 97(13), p. e0176. doi: 10.1097/MD.00000000000010176. IF: 1.804
4. Santoro MM, Di Carlo D, **Armenia D**, Zaccarelli M, Pinnetti C, Colafigli M, Prati F, Boschi A, Antoni AMD, Lagi F, Sighinolfi L, Gervasoni C, Andreoni M, Antinori A, Mussini C, Perno CF, Borghi V,

Sterrantino G. 2017. Viro-immunological response of drug-naive HIV-1-infected patients starting a first-line regimen with viraemia >500,000 copies/ml in clinical practice. *Antivir Ther.* doi: 10.3851/IMP3197. IF:2.594

5. Salpini, R., Surdo, M., Warner, N., Cortese, M.F., Colledge, D., Soppe, S., Bellocchi, M.C., **Armenia, D.**, Carioti, L., Continenza, F., Carlo, D. Di, Saccomandi, P., Mirabelli, C., Pollicita, M., Longo, R., Romano, S., Cappiello, G., Spanò, A., Trimoulet, P., Fleury, H., Vecchiet, J., Iapadre, N., Barlattani, A., Bertoli, A., Mari, T., Pasquazzi, C., Missale, G., Sarrecchia, C., Orecchini, E., Michienzi, A., Andreoni, M., Francioso, S., Angelico, M., Verheyen, J., Ceccherini-Silberstein, F., Locarnini, S., Perno, C.F., Svicher, V., 2017. Novel HBsAg mutations correlate with hepatocellular carcinoma, hamper HBsAg secretion and promote cell proliferation in vitro; *Oncotarget*. doi:10.18632/oncotarget.14944. IF: 5.168

6. Jaffré, J., **Armenia, D.**, Bellocchi, M.C., Wirden, M., Carioti, L., Lambert, S., Valantin, M.-A., Nguyen, T., Simon, A., Katlama, C., Andreoni, M., Perno, C.F., Calvez, V., Ceccherini-Silberstein, F., Marcelin, A.-G., Todesco, E., 2017. Ultradeep sequencing detection of the R263K integrase inhibitor drug resistance mutation. *J. Antimicrob. Chemother.* 86, 2696–705. doi:10.1093/jac/dkw571. IF: 4.590

7. **Armenia, D.***, Di Carlo, D., Maffongelli, G., Borghi, V., Alteri, C., Forbici, F., Bertoli, A., Gori, C., Giuliani, M., Nicastrì, E., Zaccarelli, M., Pinnetti, C., Cicalini, S., D'Offizi, G., Ceccherini-Silberstein, F., Mussini, C., Antinori, A., Andreoni, M., Perno, C., Santoro, M., 2016. Virological response and resistance profile in HIV-1-infected patients starting darunavir-containing regimens. *HIV Med.* 26–28. doi:10.1111/hiv.12388. IF: 3.257

8. Zaccarelli, M., Santoro, M.M., **Armenia, D.**, Borghi, V., Gennari, W., Gori, C., Forbici, F., Bertoli, A., Fabeni, L., Giannetti, A., Cicalini, S., Bellagamba, R., Andreoni, M., Mastroianni, C.M., Mussini, C., Ceccherini-Silberstein, F., Perno, C.F., Antinori, A., 2016. Genotypic resistance test in proviral DNA can identify resistance mutations never detected in historical genotypic test in patients with low level or undetectable HIV-RNA. *J. Clin. Virol.* 82, 94–100. doi:10.1016/j.jev.2016.07.007. IF: 3.051

9. **Armenia, D.***, Di Carlo, D., Calcagno, A., Vendemiati, G., Forbici, F., Bertoli, A., Berno, G., Carta, S., Continenza, F., Fedele, V., Bellagamba, R., Cicalini, S., Ammassari, A., Libertone, R., Zaccarelli, M., Ghisetti, V., Andreoni, M., Ceccherini-Silberstein, F., Bonora, S., Di Perri, G., Antinori, A., Perno, C.F., Santoro, M.M., 2016. Pre-existent NRTI and NNRTI resistance impacts on maintenance of virological suppression in HIV-1-infected patients who switch to a tenofovir/emtricitabine/rilpivirine single-tablet regimen. *J. Antimicrob. Chemother.* dkw512. doi:10.1093/jac/dkw512. IF:4.590

10. Aragri, M., Alteri, C., Battisti, A., Di Carlo, D., Minichini, C., Sagnelli, C., Bellocchi, M.C., Pisaturo, M.A., Starace, M., **Armenia, D.**, Carioti, L., Pollicita, M., Salpini, R., Sagnelli, E., Perno, C.F., Coppola, N., Svicher, V., 2016. Multiple Hepatitis B Virus (HBV) Quasispecies and Immune-Escape

Mutations Are Present in HBV Surface Antigen and Reverse Transcriptase of Patients with Acute Hepatitis B. *J. Infect. Dis.* 213, 1897–1905. doi:10.1093/infdis/jiw049. IF:6.273

11. Salpini, R., Colagrossi, L., Bellocchi, M.C., Surdo, M., Becker, C., Alteri, C., Aragri, M., Ricciardi, A., **Armenia, D.**, Pollicita, M., Di Santo, F., Carioti, L., Louzoun, Y., Mastroianni, C.M., Lichtner, M., Paoloni, M., Esposito, M., D'Amore, C., Marrone, A., Marignani, M., Sarrecchia, C., Sarmati, L., Andreoni, M., Angelico, M., Verheyen, J., Perno, C.F., Svicher, V., 2015. Hepatitis B surface antigen genetic elements critical for immune escape correlate with hepatitis B virus reactivation upon immunosuppression. *Hepatology* 61, 823–833. doi:10.1002/hep.27604. IF: 11.711

12. Cento, V., Tontodonati, M., Di Maio, V.C., Bellocchi, M.C., Valenti, F., Manunta, A., Fortuna, S., **Armenia, D.**, Carioti, L., Antonucci, F.P., Bertoli, A., Trave, F., Cacciatore, P., Angelico, M., Navarra, P., Neumann, A.U., Vecchiet, J., Parruti, G., Babudieri, S., Perno, C.F., Ceccherini-Silberstein, F., 2015. Kinetics of hepatitis C virus RNA decay, quasispecies evolution and risk of virological failure during telaprevir-based triple therapy in clinical practice. *Dig. Liver Dis.* 47, 233–241. doi:10.1016/j.dld.2014.12.004. IF:4.502

13. **Armenia, D.***, Fabeni, L., Alteri, C., Di Pinto, D., Di Carlo, D., Bertoli, A., Gori, C., Carta, S., Fedele, V., Forbici, F., D'Arrigo, R., Svicher, V., Berno, G., Pizzi, D., Nicastrì, E., Sarmati, L., Pinnetti, C., Ammassari, A., D'Offizi, G., Latini, A., Andreoni, M., Antinori, A., Ceccherini-Silberstein, F., Perno, C.F., Santoro, M.M., 2015. HIV-1 integrase genotyping is reliable and reproducible for routine clinical detection of integrase resistance mutations even in patients with low-level viraemia. *J. Antimicrob. Chemother.* 70, 1865–73. doi:10.1093/jac/dkv029. IF: 5.313

14. Pollicita, M., Alteri, C., Bellocchi, M.C., Armenia, D., Carioti, L., Salpini, R., Colagrossi, L., Battisti, A., Aragri, M., Fabeni, L., Mariani, R., Dalessandro, M., Ranelli, A., Paoloni, M., Parruti, G., Perno, C.F., Svicher, V., 2015. A recent epidemiological cluster of acute hepatitis B genotype F1b infection in a restricted geographical area of Italy. *Clin. Microbiol. Infect.* 21, 1124.e1-4. doi:10.1016/j.cmi.2015.07.022. IF: 4.575

15. Alteri, C., Surdo, M., Bellocchi, M.C., Saccomandi, P., Continenza, F., **Armenia, D.**, Parrotta, L., Carioti, L., Costa, G., Fourati, S., Di Santo, F., Scutari, R., Barbaliscia, S., Fedele, V., Carta, S., Balestra, E., Alcaro, S., Marcelin, A.G., Calvez, V., Ceccherini-Silberstein, F., Artese, A., Perno, C.F., Svicher, V., 2015. Incomplete APOBEC3G/F Neutralization by HIV-1 Vif Mutants Facilitates the Genetic Evolution from CCR5 to CXCR4 Usage. *Antimicrob. Agents Chemother.* 59, 4870–81. doi:10.1128/AAC.00137-15. IF:4.415

16. **Armenia, D.**, Soulie, C., Di Carlo, D., Fabeni, L., Gori, C., Forbici, F., Svicher, V., Bertoli, A., Sarmati, L., Giuliani, M., Latini, A., Boumis, E., Zaccarelli, M., Bellagamba, R., Andreoni, M., Marcelin, A.G., Calvez, V., Antinori, A., Ceccherini-Silberstein, F., Perno, C.F., Santoro, M.M., 2014. A very low

geno2pheno false positive rate is associated with poor viro-immunological response in drug-naive patients starting a first-line HAART. *PLoS One* 9. doi:10.1371/journal.pone.0105853. IF: 3.234

17. Santoro, M.M., Fabeni, L., **Armenia, D.**, Alteri, C., Di Pinto, D., Forbici, F., Bertoli, A., Di Carlo, D., Gori, C., Carta, S., Fedele, V., D'Arrigo, R., Berno, G., Ammassari, A., Pinnetti, C., Nicastrì, E., Latini, A., Tommasi, C., Boumis, E., Petrosillo, N., D'Offizi, G., Andreoni, M., Ceccherini-Silberstein, F., Antinori, A., Perno, C.F., 2014. Reliability and clinical relevance of the HIV-1 drug resistance test in patients with low viremia levels. *Clin. Infect. Dis.* 58, 1156–64. doi:10.1093/cid/ciu020. IF:8.886

18. Svicher, V., Cento, V., Rozera, G., Abbate, I., Santoro, M.M., **Armenia, D.**, Fabeni, L., Bruselles, A., Latini, A., Palamara, G., Micheli, V., Rizzardini, G., Gori, C., Forbici, F., Ippolito, G., Andreoni, M., Antinori, A., Ceccherini-Silberstein, F., Capobianchi, M.R., Perno, C.F., 2013. The Genotypic False Positive Rate Determined by V3 Population Sequencing Can Predict the Burden of HIV-1 CXCR4-using Species Detected by Pyrosequencing. *PLoS One* 8. doi:10.1371/journal.pone.0053603. IF: 3.534

19. Santoro, M.M., **Armenia, D.***, Alteri, C., Flandre, P., Calcagno, A., Santoro, M., Gori, C., Fabeni, L., Bellagamba, R., Borghi, V., Forbici, F., Latini, A., Palamara, G., Libertone, R., Tozzi, V., Boumis, E., Tommasi, C., Pinnetti, C., Ammassari, A., Nicastrì, E., Buonomini, A., Svicher, V., Andreoni, M., Narciso, P., Mussini, C., Antinori, A., Ceccherini-Silberstein, F., Perri, G. Di, Perno, C.F., 2013. Impact of pre-therapy viral load on virological response to modern first-line HAART. *Antivir. Ther.* 18, 867–876. doi:10.3851/IMP2531. IF:3.143

20. Fourati, S., Visseaux, B., **Armenia, D.**, Morand-Joubert, L., Artese, A., Charpentier, C., Eede, P., Van Den, Costa, G., Alcaro, S., Wirden, M., Perno, C.F., Silberstein, F.C., Descamps, D., Calvez, V., Marcelin, A.G., 2013. Identification of a rare mutation at reverse transcriptase Lys65 (K65E) in HIV-1-infected patients failing on nucleos(t)ide reverse transcriptase inhibitors. *J. Antimicrob. Chemother.* 68, 2199–2204. doi:10.1093/jac/dkt200. IF: 5.439

21. Geretti, A.M., **Armenia, D.**, Ceccherini-Silberstein, F., 2012. Emerging patterns and implications of HIV-1 integrase inhibitor resistance. *Curr. Opin. Infect. Dis.* 1. doi:10.1097/QCO.0b013e32835a1de7. IF: 4.870

22. **Armenia, D.**, Vandenbroucke, I., Fabeni, L., Van Marck, H., Cento, V., D'Arrigo, R., Van Wesenbeeck, L., Scopelliti, F., Micheli, V., Bruzzone, B., Lo Caputo, S., Aerssens, J., Rizzardini, G., Tozzi, V., Narciso, P., Antinori, A., Stuyver, L., Perno, C.F., Ceccherini-Silberstein, F., 2012. Study of genotypic and phenotypic HIV-1 dynamics of integrase mutations during raltegravir treatment: A refined analysis by ultra-deep 454 pyrosequencing. *J. Infect. Dis.* 205, 557–567. doi:10.1093/infdis/jir821. IF:

23. Santoro, M.M., **Armenia, D.***, Fabeni, L., Santoro, M., Gori, C., Forbici, F., Svicher, V., Bertoli, A., Dori, L., Surdo, M., Balestra, E., Palamara, G., Girardi, E., Angarano, G., Andreoni, M., Narciso, P., Antinori, A., Ceccherini-Silberstein, F., Perno, C.F., 2012. The lowest X4 Geno2Pheno false-positive rate

is associated with greater CD4 depletion in HIV-1 infected patients. *Clin. Microbiol. Infect.* 18. doi:10.1111/j.1469-0691.2012.03905.x. IF: 4.578

24. Malet, I., Fourati, S., Charpentier, C., Morand-Joubert, L., **Armenia, D.**, Wirden, M., Sayon, S., Van houtte, M., Ceccherini-Silberstein, F., Brun-Vézinet, F., Perno, C.F., Descamps, D., Capt, A., Calvez, V., Marcelin, A.G., 2011. The HIV-1 integrase G118R mutation confers raltegravir resistance to the CRF02_AG HIV-1 subtype. *J. Antimicrob. Chemother.* 66, 2827–2830. doi:10.1093/jac/dkr389. IF: 5.068

25. Malet, I., Wirden, M., Fourati, S., **Armenia, D.**, Masquelier, B., Fabeni, L., Sayon, S., Katlama, C., Perno, C.F., Calvez, V., Marcelin, A.G., Ceccherini-Silberstein, F., 2011. Prevalence of resistance mutations related to integrase inhibitor S/GSK1349572 in HIV-1 subtype B raltegravir-naive and -treated patients. *J. Antimicrob. Chemother.* 66, 1481–1483. doi:10.1093/jac/dkr152. IF: 5.068

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Papers in study Group

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