Curriculum vitae

1. Personal data

Full Name: Ana Isabel Amaro Gonçalves Domingos

Name under which she publish: Ana Domingos or Ana Gonçalves Domingos

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2. Academic degrees and positions

Ana Gonçalves Domingos is a researcher at the Medical Parasitology unit, at the Institute of Hygiene and Tropical Medicine, Universidade NOVA de Lisboa (IHMT/UNL), since 2010.

She has a PhD in Biology by University of Lisbon (1997) and did the Agregação (Habilitation) in Biomedical Sciences - Parasitology, UNL (2011).

She is invited professor at the University of Lurio, Mozambique.

3. Teaching experience

Currently, is teaching in Master Courses on a)Medical Parasitology and b)Biomedical Sciences (Coordinator of the Translational research Unit) at IHMT and c)Biotechnology at University Eduardo Mondlane, Mozambique and d)Tropical Medicine and International Health, at University Lurio, Mozambique.

She also participates as regular teacher in PhD Courses on a)Biomedical Sciences, b)Genetic of Human Diseases at IHMT, c)Tropical Knowledge and Management at the Nova School of Business and Economics (Coordinator of the Translational research Unit) d)GABBA-PhD Course, University of Oporto.

In parallel, participated in Courses on "Scientific writing" held at IHMT, University Eduardo Mondlane, Maputo, Mozambique and University Cape Verde, Praia, Cape Verde.

4. Experience as scientific adviser

Last 5 years, she supervised 3 Post-Doc Fellows, 5 PhD students, 6 MSc students and several Grant holders and co-supervised 3 PhD students and 3 MSc students (University of Aveiro, Portugal and University of Eduardo Mondlane and University Lúrio, Mozambique).

5. Research interest and activities

Her research activities rely on a system biology approach, under funded projects, using of methodologies such as proteomics, transcriptomics and functional genomics. These methodologies are being used mainly for the identification of vaccine candidates and drug targets in both parasites and vectors of diseases having a great human health and animal production impact such as malaria, babesiosis and theileriosis. To improve knowledge on parasite and vectors interaction is as well one of her goals in accordance with the group of "Vector borne-diseases" strategy (GHTM). Her team achieved recently the transcriptome for different arthropods and tested newly identified antigens on vaccination trials.

Last 5 years (2014-2019) participated in 7 (4, as PI) funded projects and during her carrier published 74 papers, 3 books and 2 book chapters.

Currently, she participates in two Cyted networking.

6. Publications

Books and book chapters

5. Patrício C., Antunes S., Domingos A. 2015. Recombinant protein production: A case study research report Ed. Verlag: LAP - Lambert Academic Publishing (ISBN: 978-3-659-78170-4).

4. Couto J., Silva R., Domingos A. 2015. Transcriptomic analysis of *Anopheles stephensis* salivary glands. Ed. Verlag: LAP - Lambert Academic Publishing (ISBN: 978-3-659-77756-1).

3. Domingos A., Antunes S., Villar M., de la Fuente, J. 2015. "Functional genomics of tick vectors challenged with the cattle parasite *Babesia bigemina*." In: Molecular Diagnostics in Laboratory Veterinary Practice – Section IV: Integrative Omics and High-Throughput Platforms to Unravel the Biology of Pathogens and their Interaction with the host. Edts: Cunha, M. & Inácio, J., Editor: Springer – Series "Methods in Molecular Biology." 1247:475-89.

2. Domingos A., Lérias J., Antunes S., Madeira de Carvalho L. 2013. Calreticulin from Rhipicephalus annulatus infected by Babesia bigemina. Ed. Verlag: LAP - Lambert Academic Publishing (ISBN 978-3-659-36106-7).

1. Couri S., Park Y., Pastore G., Domingos, A. 2008. Enzimas na produção de alimentos e bebidas. In: Enzimas em Biotecnologia, produção, aplicações e mercado. Editora Interciência. 153-178.

Papers in Scientific Journals

74. Estrada-Peña A, Nava S, Tarragona E, Bermúdez S, de la Fuente J, Domingos A, Labruna M, Mosqueda J, Merino O, Szabó M, Venzal JM & Guglielmone A. Species occurrence of ticks in South America, and interactions with biotic and abiotic traits. Sci Data, 6: 299. doi: 10.1038/s41597-019-0314-0

73. Rosa C, Asada M, Hassana K, Domingos A, Pimentel m. Antunes S. 2019. Transient transfection of Babesia ovis using heterologous promoters. Ticks Tick Borne Dis. (10) 101279. doi.org/10.1016/j.ttbdis.2019.101279

72. Dias, F., Couto, J., Ferrolho, J., Seron, G.S., Bell-Sakyi, L., Antunes, S., Domingos, A. (2019) Folate pathway modulation in *Rhipicephalus* ticks in response to infection. Transboundary and emerging diseases. doi: 10.1111/tbed.13231.

71. Antunes, S., Couto, J., Ferrolho, J., Sanches, G.S., Merino, J.O., la Cruz-Hernandez, D., Mazuz, M., Villar, M., Shkap, V., de La Fuente, J. and Domingos, A.G., 2019.

Transcriptome and proteome response of *Rhipicephalus annulatus* tick vector to *Babesia bigemina* infection. Frontiers in physiology, 10, p.318. DOI: 10.3389/fphys.2019.00318.

70. Hector, E., Elelu, N., Ferrolho, J., Couto, J., Sanches, G., Antunes, S., Domingos, A., Eisler, M. (2019) PCR detection of *Ehrlichia ruminantium* and *Babesia bigemina* in cattle from Kwara State, Nigeria: unexpected absence of infection. Parasitology research, 118(3), pp.1025-1029. DOI: 10.1007/s00436-019-06204-1.

69. Rodriguez-Mallon A., Cenis Anadón J.L., Lozano Pérez A.B., Bechara G.H., Zacarias Machado R., Lleonart Cruz R.L., Domingos A., Tamayo Sosa R., 2018. CYTED Network to develop immunogens compatible with integrated management strategies for tick control. Vaccine 36(45):6581-6586. doi: 10.1016/j.vaccine.2018.09.064.

68. Hector E., Elelu N., Ferrolho, J., Couto, J., Sanches GS, Antunes, S., Domingos, A., Eisler M. 2018. PCR detection of *Ehrlichia ruminantium* and *Babesia bigemina* in cattle from Kwara State, Nigeria: unexpected absence of infection. Parasitol. Res. 1:1-5. doi: 10.1007/s00436-019-06204-1.

67. Sanches GS, Couto J, Silva-Pedrosa R, Ferrolho J, Santos AS, Santos-Silva MM, Antunes S, Domingos A. 2018. Molecular heterogeneity of *Rhipicephalus sanguineus sensu lato* and screening for *Ehrlichia canis* in mainland Portugal. Ticks Tick Borne Dis. (17) 30522-8. doi: 10.1016/j.ttbdis.2018.06.002.

65. Antunes, S., Ferrolho, J., Couto, J., Rodrigues, F., Nobre, J., Santos, A. S., Santos-Silva, M. M., de la Fuente, J., Domingos, A. 2018. "*Rhipicephalus bursa* sialotranscriptomic response to blood feeding and *Babesia ovis* infection: identification of candidate protective antigens" Front. Cell. Infect. Microbiol 8:116. doi: 10.3389/fcimb.2018.00116.

64. Couto, J., Tonk, M., Ferrolho, J., Antunes, S., Vilcinskas, A., de la Fuente, J., Domingos, A., Cabezas-Cruz, A., 2018. Antiplasmodial activity of tick defensins in a mouse model of malaria. Ticks Tick Borne Dis 9, 844-849. doi: 10.1016/j.ttbdis.2018.03.011.

63. Antunes S, Rosa C, Couto J, Ferrolho J, Domingos A. 2017. Deciphering *Babesia*-Vector Interactions. Front Cell Infect Microbiol. 2017; 7: 429.

62. Matsimbe A. M., Magaia V., Sanches G. S., Neves L., Noormahomed E., Antunes S., Domingos A. 2017. Molecular detection of pathogens in ticks infesting cattle in

Nampula province, Mozambique. Exp. Appl. Acarol. doi: 10.1007/s10493-017-0155-5.

61. Couto J., Antunes S., Pinheiro-Silva R., do Rosário V., de la Fuente V., Domingos A. 2017. Solute carriers affect *Anopheles stephensi* survival and *Plasmodium berghei* infection in the salivary glands". Sci. Reports. 7(1):6141. doi: 10.1038/s41598-017-06317-6.

60. Silva M. G, Knowles D., Antunes S. A., Domingos A., Esteves M. A., Suarez C. E. 2017. Inhibition of the in vitro growth of *Babesia bigemina*, *Babesia caballi* and *Theileria equi* parasites by trifluralin analogues. Ticks Tick Borne Dis. 8(4):593-597. doi: 10.1016/j.ttbdis.2017.04.002.

59. Domingos A., Pinheiro-Silva R., Couto J., Rosário V., de la Fuente J. 2017. The *Anopheles gambiae* transcriptome – a turning point for malaria control. Insect Mol. Biol. 26(2):140-151. doi: 10.1111/imb.12289. doi: 10.1111/imb.12289.

58. Ferrolho J., Antunes S., Sanches G. S., Couto J., Évora P. M., Rosa C., André M. R., Machado R. Z., Bechara G. H., Domingos A. 2017. Ferritin 1 silencing effect in *Rhipicephalus sanguineus sensu lato* (Acari: Ixodidae) during experimental infection with Ehrlichia canis. Ticks Tick Borne Dis. 8(1):174-184.

57. Cornelia Silaghi Ana Sofia Santos, Jacinto Gomes, Iva Christova, Ioana Adriana Matei, Gernot Walder, Ana Domingos, Lesley Bell-Sakyi, Hein Sprong, Friederike D. von Loewenich, Jose Oteo, José de la Fuente, J Stephen Dumler. 2017. Guidelines for the direct detection of *Anaplasma* spp. in diagnosis and epidemiological studies. Vector Borne Zoonotic Dis. 17(1):12-22. doi: 10.1089/vbz.2016.1960.

56. Lempereur L., Beck R., Fonseca I., Marques C., Duarte A., Santos M., Zúquete S., Gomes J., Walder G., Domingos A., Antunes S., Baneth G., Holman S. P., Zintl A. 2017. Guidelines on *Babesia* and *Theileria* direct detection. Vector Borne Zoonotic Dis. 17(1):51-65. doi: 10.1089/vbz.2016.1955.

55. Couto J., Antunes A., Ferrolho J., de la Fuente J., Domingos A. 2017. Reduction of mosquito survival in mice vaccinated with *Anopheles stephensi* glucose transporter. BioMed Res Int. doi: 10.1155/2017/3428186.

54. de la Fuente J., Antunes S., Bonnet S., Cabezas-Cruz A., Domingos A. G., Estrada-Peña A., Johnson N., Kocan K. M., Mansfield K. L., Nijhof A. M., Papa A., Rudenko N., Villar M., Alberdi P., Torina A., Ayllón N., Vancova M., Golovchenko M., Grubhoffer L., Caracappa S., Fooks A. R., Gortazar C., Rego R. O. M. 2017. Tick-Pathogen

Interactions and Vector Competence: Identification of Molecular Drivers for Tick-Borne Diseases. Front Cell Infect Microbiol. 7:114. doi: 10.3389/fcimb.2017.00114.

53. Ferrolho J., Sanches G. S., Couto J., Antunes S., Domingos A. 2017. "What makes your dog itch? There is a tick in the kennel!" Frontiers for young minds. 5:28: doi10.3389/frym.2017.00028.

52. Santos-Silva M. M., Melo P., Santos N., Antunes S., Duarte L. R., Ferrolho J., Milhano N., Santos P. T., Domingos A., Santos A. S. 2017. PCR screening of tick-borne agents in sensitive conservation areas, Southeast Portugal. Mol. Cell Probes. 31:42-45. doi: 10.1016/j.mcp.2016.11.005.

51. Elelu N., Ferrolho J., Couto J., Domingos A., Eisler M.C. 2016. Molecular diagnosis of the tick-borne pathogen *Anaplasma marginale* in cattle blood samples from Nigeria using qPCR. Exp Appl Acarol. 70(4):501-510

50. Antunes S., Ferrolho J., Domingues N., Santos A. S., Santos-Silva M., Domingos, A. 2016. *Anaplasma marginale* and *Theileria annulata* in questing ticks from Portugal. Exp Appl Acarol.DOI: 10.1007/s10493-016-0057-y.

49. Ferrolho J., Domingos A., Campino L. Cattle Specific Immune Mechanisms used against the Protozoan *Theileria annulata*. Int. Trends in Immunity. 2016. Vol.4 No.2. doi: 0.18281/iti.2016.2.2.

48. Couto J., Ferrolho J., de la Fuente J., Domingos A. *Anopheles gambiae* and *A. stephensi* Immune Response during *Plasmodium berghei* Infection Uncovered by Sialotranscriptomic Analysis. Int. Trends in Immunity. 2016. Vol.4 No.2. doi: 10.18281/iti.2016.2.4.

47. Ferrolho J., Antunes S., Santos A. S., Velez R., Padre L., Cabezas-Cruz L., Santos-Silva M. M., Domingos A. 2016. Detection and phylogenetic characterization of *Theileria* spp. and *Anaplasma marginale* in *Rhipicephalus bursa* in Portugal. Ticks Tick Borne Dis. 7(3):443-8. doi: 10.1016/j.ttbdis.2016.01.004.

46. Ferreira L. M., Garcia-Herreros M., Domingos A., Marques C. C., Mesquita P., Barbas J. P., Baptista M. C., Pimenta J., Horta A. E., Prates J. A., Pereira R. M. 2016. Prion protein 2 (dublet) gene (PRND): role in ovine semen capacitation, cryopreservation and fertility. Reprod Fertil Dev. 29(5):985-997. doi: 10.1071/RD15214.

45. Pinheiro-Silva R., Coelho L. P., Cabezas-Cruz L. P., Valdés J., do Rosário V., de la Fuente J., Domingos A. 2015. Gene expression changes in the salivary glands of

Anopheles coluzzii elicited by *Plasmodium berghei* infection. Parasites & Vectors 8:485.

44. Ferrolho J., Domingues N., Domingos A., Santos-Gomes G. 2015. The regulatory $CD4^{+}CD25^{+}$T cell subset in host homeostasis during protozoan infection: an overview. Int Trends Immun (3)1: 6-16.

43. Contreras M., Moreno-Cid J. A., Domingos A., Canales M., Díez-Delgado I., Pérez de la Lastra J. M., Sánchez E., Merino O., Zavala R. L., Ayllón N., Boadella M., Villar M., Gortázar C., de la Fuente J. 2015. Bacterial membranes enhance the immunogenicity and protective capacity of the surface exposed tick Subolesin-*Anaplasma marginale* MSP1a chimeric antigen. Ticks Tick Borne Dis. 820-8.

42. Antunes S., Domingues N., Lérias J., Merino O., Mosqueda J., de la Fuente J., Domingos A. 2015. Artificial feeding of *Rhipicephalus microplus* female ticks with anti calreticulin serum do not influence tick and *Babesia bigemina* acquisition. Ticks Tick Borne Dis. 6(1):47-55.

41. Antunes S., Merino O., Mosqueda J., Moreno-Cid J. A., Bell-Sakyi L., Fragkoudis R., Weisheit S., Pérez de la Lastra J. M., Alberdi P., Domingos A., de la Fuente J. 2014. Tick capillary feeding for the study of proteins involved in tick-pathogen interactions as potential antigens for the control of tick infestation and pathogen infection. Parasites & Vectors 7: 42.

40. Da Costa M., Pinheiro-Silva R., Moreno-Cid J. Á., Custodio A., Villar M., Silveira H., de la Fuente J., Domingos A. 2014. Mosquito Akirin as a potential antigen for malaria control. Malaria J 13(1):470.

39. Silva M. G., Domingos A., Esteves M. A., Cruz M. E. M., Suarez C. E. 2013. Evaluation of the *in vitro* growth-inhibitory effect of trifluralin analogues on *Babesia bovis* parasites. Int. J. Parasitol: Drugs and Drug Resistance 3: 59–68.

38. Pinheiro-Silva R., do Rosário V., de la Fuente J., Domingos A. 2013. Identification of genes differentially expressed in *Anopheles gambiae* salivary glands in response to infection with *Plasmodium berghei.* Trop Med & Int Health 18:155.

37. Fafetine J. M., Antunes S., Neves L., Domingos A. 2013. Diagnostic of Rift Valley fever virus using monoclonal antibodies produced against nucleocapsid (N) protein. – Transbound. Emerg. Dis. (J. Vet. Med.) 60: 24–30.

36. Merino O., Sandra A., Mosqueda J., Moreno-Cid J. A., Perez de la Lastra J. M., Rosario-Cruz R., Rodriguez S., Domingos A., de la Fuente J. 2013. Vaccination with proteins involved in tick–pathogen interactions reduces vector infestations and pathogen infection. Vaccine. 31: 5889– 5896.

35. Popara M., Villar M., Mateos-Hernandez L., Fernandez de Mera I. G., Marina A., del Valle M., Almazan C., Domingos A., de la Fuente J. 2013. Lesser protein degradation machinery correlates with higher BM86 tick vaccine efficacy in *Rhipicephalus annulatus* when compared to *Rhipicephalus microplus*. Vaccine. 31: 4728– 4735.

34. Pérez B., Antunes S., Gonçalves L. M., Domingos A., Gomes J. R. B., Gomes P., Teixeira, C. 2013. Toward the discovery of inhibitors of babesipain-1, a *Babesia bigemina* cysteine protease: in vitro evaluation, homology modeling and molecular docking studies. J Comput Aided Mol Des. 27(9): 823-835.

33. Armada A. M., Gazarini M., Gonçalves L. M., Antunes S., Custódio A., Rodrigues A., Almeida A. J., Silveira H., do Rosário V. E., Santos-Gomes G., Domingos A. 2013. Generation of an antibody that recognizes *Plasmodium chabaudi* cysteine protease (chabaupain-1) in both sexual and asexual parasite life cycle and evaluation of chabaupain-1 vaccine potential. Exp. Parasitol. 135 (2013) 166–174.

32. Domingos A., Antunes S., Borges L., do Rosário V. E. 2013. Approaches towards tick and tick-borne diseases control. Rev. Soc. Bras. Med. Trop. 46(1): 1-5.

31. Pimenta J., Sardinha J., Marques C. C., Domingos A., Baptista M. C., Barbas J. P., Martins I. C., Mesquita P., Santos P., Soares R., Viegas A., Cabrita E., Horta A. E., Fontes C. A., Prates J. A., Pereira R.M. 2013. Inhibition of ovine *in vitro* fertilization by anti-Prt antibody. Hypothetical model for Prt-ZP interaction. Reprod. Biol. and Endocrinol. 11(25).

30. Antunes S., Golovchenko M., Rudenko N., Grubhoffer L., Skap V., do Rosário V. E., de la Fuente J., Domingos A. 2012. Gene silencing of the tick antigens selected after infection with *Babesia bigemina*, in the host tick *Rhipicephalus annulatus* by RNA interference. Int J Parasitol 42: 187–195.

29. Martins T. M., do Rosário V. E., Domingos A. 2012.Expression and characterization of the *Babesia bigemina* cysteine protease babesipain-1. Acta Tropica 121: 1– 5

28. Pimenta J., Domingos A., Santos P., Marques C. C., Cantante C., et al. 2012. Is *prnt* a Pseudogene? Identification of Ram Prt in Testis and Ejaculated Spermatozoa. *PLoS ONE* 7(8): e42957.

27. Awad H., Antunes S., Garlindo R., do Rosario V. E., de La Fuente J., Domingos A., Elhussein A. M. 2011. Prevalence and genetic diversity of *Babesia* and *Anaplasma* species in cattle in Sudan. *Vet. Parasitol*. 181: 146– 152.

26.. Martins T. M, do Rosário V. E., Domingos A. 2011. Identification of papain-like cysteine proteases from the bovine piroplasm *Babesia bigemina* and evolutionary relationship of piroplasms C1 family of cysteine proteases. *Exp. Parasitol.* 127(1):184-94.

25.. Martins T. M, Neves L., Pedro O. C., Fafetine J. M., do Rosário V. E, Domingos A. (2010) Molecular detection of *Babesia spp*. and other haemoparasitic infections of cattle in Maputo Province, Mozambique. *Parasitol.* 1-8.

24. Martins T. M., Gonçalves L. M. D., Capela R., Moreira R., do Rosário V. E., Domingos A. (2010) Effect of synthesized inhibitors on babesipain-1, a new cysteine protease from the bovine piroplasm *Babesia bigemina*. *Transbound. Emerg. Dis. (J. Vet. Med.)* 57: 68–69.

23. Capela R., Oliveira R., Gonçalves L. M. D*., Domingos A.*, Gut J., Rosenthal P.J., Lopes F., Moreira R. (2009) Artemisinin-dipeptidyl vinyl sulfone hybrid molecules: design, synthesis and preliminary SAR for antiplasmodial activity and falcipain-2 inhibition. *Bioorg. & Med. Chem. Lett.* 19: 3229–3232.

21. Caldeira R. L., Gonçalves L. M. D., Martins T. M., do Rosário V .E., Novo C., Domingos A. (2009) *Plasmodium chabaudi*: expression of active recombinant chabaupain-1 and localization studies in *Anopheles sp*.. *Exp. Parasitol*. 122: 97–105.

20. Martins T. M., Pedro O.C., Caldeira R. A., do Rosário V. E., Neves L., Domingos A. (2008) Detection of bovine Babesiosis in Mozambique by a novel seminested hot-start PCR method. *Vet Parasitol*. 153(3-4):225-30.

19. Raposo S., Domingos A. (2008) Purification and characterization milk-clotting aspartic proteinases from *Centaurea calcitrapa* cell suspension cultures Process Biochem 43: 139–144.

18. Caldeira R. L., Martins T. M., Silveira H., do Rosário V. E., Novo C., Domingos A. (2006) Cystein Proteases from *Plasmodium chabaudi* an Important Target on Malaria Therapy, *International Journal of Infectious Diseases*, vol 10 - supl. 1: S298.

17. Salvador S., Novo C., Domingos A. (2006) Evaluation of the presence of aspartic proteases from *Centaurea calcitrapa* during seed germination. *Enz Microbiol Technol*. 38:893-898.

16. Martins T. M., Domingos A., Berry C., Wyatt D. M. (2006) The Activity and Inhibition of the Food Vacuole Plasmepsin from the Rodent Malaria. *Acta Tropica.* 97: 212–218

15. Martins T. M., Novo C., do Rosário V. E., Domingos A. (2003) Aspartic proteases from *Plasmodium chabaudi*: a rodent model for human malaria. *Acta Tropica* 89: 1-12.

14. Martins T. M., Domingos A., Novo C., Lourenço P. M. L (2003) Effect of *Agrobacterium rhizogenes* infection on *in vitro* rooting of *Vitis vinifera*. *Vitis* 42 (3): 159-161.

13. Lourenço P. M. L., de Castro S., Martins T. M., Clemente A., Domingos A. (2002) Growth and proteolytic activity of hairy roots from *Centaurea calcitrapa*: effect of nitrogen and sucrose. *Enz. Microb. Technol.* 133(3): 242-249.

12. Armada A., do Rosário V. E., Novo C., Domingos A. (2002) Preliminary results on the presence of proteases on malaria patient's urine. 3rd European Congress on Tropical Medicine and International Health, Acta Tropica P131, Lisboa.

11. Martins T. M., Caldeira R. L., Novo C., do Rosário V. E., Domingos A. (2002) The first cysteine protease found in *Plasmodium chabaudi*, a rodent malaria parasite. 3rd European Congress on Tropical Medicine and International Health, Acta Tropica P080, Lisboa.

10. Martins T. M., Novo C., do Rosário V. E., Domingos A. (2002) Aspartic proteases of the rodent malaria parasite *Plasmodium chabaudi*. 3rd European Congress on Tropical Medicine and International Health. Acta Tropica P142, Lisboa.

9. Novo C., Domingos A., Karmali A. (2001) Purification and Characterization of Monoclonal Antibodies Against the Free α-Subunit of Human Chorionic Gonadotrophin. *Mol. Biotech.* 17: 119-128.

8. Clemente A., Domingos A., Grancho A. P., Iley J., Moreira R., Neres J., Palma N., Santana A. B., Valente E. (2001) Design, Synthesis and Stability of N-

Acyloxymethyl- and N- Aminocarbonyloxymethyl-2-Azetidinones as Human Leukocyte Elastase Inhibitors *Bioorg. Med. Chem. Lett.* 11: 1065-1068.

7. Reis P. M., Lourenço P. M. L., Domingos A., Clemente A., Pais M. S., Malcata X. (2000) Applicability of extracts from *Centaurea calcitrapa* in ripening of bovine cheese *Int. Dairy J.*, 10: 775-780.

6. Domingos A., Cardoso P., Xue Z. T., Clemente A., Brodelius P. E., Pais M. S. (2000) Purification, cloning and autoproteolytic processing of an aspartic protease from *Centaurea calcitrapa*. *Eur. J. Biochem.* 267: 1-9.

5. Domingos A., Xue Z. T., Guruprasad K., Clemente A., Blundell T., Pais M. S., Brodelius P. E. (1998) An aspartic proteinase from flowers of *Centaurea calcitrapa*; purification, molecular cloning and modelling of its three-dimensional structure*. Adv Exp Med Biol*. 436: 465-472.

4. Brodelius P. E., Cordeiro M., Mercke P., Domingos A., Clemente A., Pais M. S. (1998) Molecular cloning of aspartic proteinases from flowers of *Cynara cardunculus* subsp. *flavescens* cv. Cardoon and *Centaurea calcitrapa. Adv Exp Med Biol*. 436: 435-439.

3. Tavaria F., Sousa M. J., Domingos A., Malcata F. X., Brodelius P. E., Clemente A., Pais M. S. (1997) -Degradation of caseins from different types by extracts of *Centaurea calcitrapa*. *J. Agric. Food Chem.* 45*:* 3760-3765.

2. Domingos A., Karmali A. (1993) "Monoclonal antibodies against urease from *Canavalia ensiformes*". *Biochimie* 75: 1001-1006.

1. Domingos A., Karmali A., Brown P. R. (1989) "One Step affinity purification of amidases from mutant strains of *Pseudomonas aeruginosa*". *Biochimie* 71: 1179 - 1184.

Lisbon, January 30nd, 2020

Ana Gonçalves Domingos