Aims. Even though it has been more than 30 years since the identification of HIV as the causative agent of the AIDS pandemic, we still lack today effective vaccine approaches and therapies to prevent and clear this infection from affected individuals. The World Health Organization (WHO) estimates that there are over 35 million individuals with AIDS around the world, and that HIV is causing approximately 2 million deaths per year. Therefore, HIV and AIDS are still a major concern for human health.

In order to develop new therapeutic approaches to contain and clear this infection, we need to better understand the roles of the virus and cellular factors required for virus replication, the importance of the immune response in blocking HIV infection, as well as the mechanisms by which HIV overcomes these barriers. The thematic issue “Strategies to defeat HIV” aims to cover the most up to date aspects of virus restriction, cellular co-factors, animal models, targets for antiretroviral therapy as well as new insights in vaccine development to fight HIV and AIDS.

Keywords. AIDS, HIV, vaccine, restriction factors, therapy, animal models

Content (tentative outline)

- Article 1: Tentative title: Use of HIV entry inhibitors to block HIV infection
  Authors: Amy Jacobs, Ph.D. Assistant Professor. Dpt. Microbiology and Immunology. State University of New York at Buffalo.
  ajacobs2@buffalo.edu

- Article 2: Tentative title: Exploiting alternative strategies to inhibit HIV replication. Use of broadly neutralizing monoclonal antibodies
  Author: Eloísta Yuste, Ph.D. Deputive Executive Director of IDIBAPS/ Hospital Clinic Retrovirology and Viral Immunology laboratory
  EYUSTE@clinic.ub.es

- Article 3. Tentative title: The role of SAMHD1 in retrovirus restriction
  Author: Thomas Gramberg, Ph.D. Professor, group leader. Institute of Clinical and Molecular Virology. Friedrich-Alexander Universität Erlangen-Nürnberg
• Article 4. Tentative title: Targeting co-factors in the early stages of HIV infection
  Author: Torsten Schaller, Ph.D. Junior group leader. Goethe Universitat Frankfurt am Main, Frankfurt Germany. torsten.schaller@kcl.ac.uk

• Article 5: Tentative title: Tat-modulation of interferon stimulated genes in antigen presenting cells
  Author: Anna Aldovini, M.D. Associate Professor. Boston Children’s Hospital. Harvard Medical School. anna.aldovini@childrens.harvard.edu

• Article 6: Tentative title: Use of Tat inhibitors as potential drugs for antiretroviral therapy.
  Author: Susana Valente, Ph.D. Associate Professor. Department of Infectology, Department of Microbial Sciences. The Scripps Research Institute, Florida svalente@scripps.edu

• Article 7. Tentative title: Factors that inhibit HIV assembly and production
  Authors: Christine Goffinet, Ph.D. Junior group leader. Twincore, Hannover, Germany. christine.goffinet@twincore.de
  Co-author: Veronika Lodermeier (Goffinet’s lab)

• Article 8: Tentative title: Exploiting the roles of restriction factors to contain HIV replication and spread
  Author: Ruth Serra-Moreno, Ph.D. Assistant Professor. Dpt. Biological Sciences, Texas Tech University (Pending). Current affiliation: Harvard Medical School

• Article 9: Tentative title: Tetherin, a restriction factors that links with adaptive immunity. The article will be from the perspective of mouse models.
  Authors: Mario Santiago, Ph.D. Assistant Professor. Division of Infectious Diseases. University of Colorado, Denver. Mario.Santiago@ucdenver.edu
  Co-authors: Sam Li and Brad Barrett (Santiago’s lab)

• Article 10. Tentative title: R88-APOBEC3Gm is a promising anti-HIV factor for both drug resistant and latent HIV-1.
  Author: XiaoJian Yao, Ph.D. Associate Professor. Dpt. Medical Microbiology. University of Manitoba, Winnipeg, Canada. yao2@cc.umanitoba.ca

• Submission of articles for review: 15/06/2015
• Peer Review complete: 31/12/2015
• Final approval of the manuscripts: 31/01/2016
• Submission deadline: 15/02/2016