**Wayne State University**

**Professional Record**

**Haidong Gu**

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**Department/College:**

Department of Biological Sciences

College of Liberal Arts and Sciences

**Education:**

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| B.S. | Fudan University |  |
| M.S. | Chinese Academy of Medical Sciences |  |
| Ph.D. | The Ohio State University |  |
| Post-Doc | University of Chicago |  |

**Professional Society Memberships:**

American Society for Virology

American Society for Microbiology

**Grant support:**

1R01AI1899201 (PI: Haidong Gu)

Title: Dissecting the Functional Domains of Infected Cell Protein 0 of Herpes Simplex Virus 1.

Funding Agency: NIH, National Institute of Allergy and Infectious Diseases

Funding Period: 4/15/2015 – 3/31/2020

Total Cost: $1,882,693

**Publications:**

1. Zheng Y, Samrat SK, **Gu H**\*. A tale of two PMLs: elements regulating the differential substrate recognition by the HSV-1 ICP0 E3 ubiquitin ligase. J. Virol. 90 (23): 10875-10885 (2016).
2. **Gu H\***, Zheng Y. Role of ND10 nuclear bodies in the chromatin repression of HSV-1. Virol J. 13:62. DOI 10.1186/s12985-016-0516-4. (2016). Review.
3. **Gu H\*.** Infected cell protein 0 functional domains and their coordination in herpes simplex virus replication. World J Virol. 5(1):1-13. (2016). Review.
4. Zheng Y, **Gu H\***. Identification of Three Redundant Segments Responsible for Herpes Simplex Virus 1 Infected Cell Protein 0 to Fuse with ND10 Nuclear Bodies. J. Virol. 89(8):4214-26 (2015).
5. **Gu H\***, Zheng Y, Roizman B. The interaction of herpes simplex virus ICP0 with ND10 bodies: A sequential process of adhesion, fusion and retention. J. Virol. 87 (18): 10244-10254 (2013).
6. Zerboni L, Che X, Reichelt M, Qiao Y, **Gu H**, Arvin A**\***. Herpes simplex virus 1 tropism for human sensory ganglion neurons in the severe combined immunodeficiency mouse model of Neuropathogenesis. J. Virol. 87(5): 2791-2802. (2013).
7. Kalamvoki M, **Gu H**, Roizman B**\***. Overexpression of the ubiquitin-specific protease 7 resulting from transfection or mutations in the ICP0 binding site accelerates rather than depresses herpes simplex virus 1 gene expression. J. Virol. 86 (23): 12871-8. (2012).
8. Du T, Zhou G, Khan S, **Gu H,** Roizman B**\***.Disruption of HDAC/CoREST/REST repressor by dnREST reduces genome silencing and increases virulence of herpes simplex virus. Pro Natl Acad Sci U S A. 107(36):15904-9. (2010).
9. **Gu H,** Poon AP, Roizman B**\***.During its nuclear phase the multifunctional regulatory protein ICP0 undergoes proteolytic cleavage characteristic of polyproteins. Proc Natl Acad Sci U S A. 106(45):19132-7. (2009).
10. **Gu H,** Roizman B**\***. Engagement of the lysine-specific demethylase/HDAC1/CoREST /REST complex by herpes simplex virus 1. J Virol. 83(9):4376-85. (2009).
11. **Gu H,** Roizman B**\***.The two functions of herpes simplex virus 1 ICP0, inhibition of silencing by the CoREST/REST/HDAC complex and degradation of PML, are executed in tandem. J Virol. 83(1):181-7. (2009).
12. **Gu H,** Roizman B**\***.Herpes simplex virus-infected cell protein 0 blocks the silencing of viral DNA by dissociating histone deacetylases from the CoREST-REST complex. Proc Natl Acad Sci U S A. 104(43):17134-9. (2007).
13. Poon AP, **Gu H,** Roizman B**\***.ICP0 and the US3 protein kinase of herpes simplex virus 1 independently block histone deacetylation to enable gene expression. Proc Natl Acad Sci U S A. 103(26):9993-8. (2006).
14. Roizman B**\***, **Gu H,** Mandel G.The first 30 minutes in the life of a virus: unREST in the nucleus. Cell Cycle. 4(8):1019-21. (2005) Review.
15. **Gu H,** Liang Y, Mandel G, Roizman B**\***.Components of the REST/CoREST/histone deacetylase repressor complex are disrupted, modified, and translocated in HSV-1-infected cells. Proc Natl Acad Sci U S A. 102(21):7571-6. (2005).
16. **Gu H,** Roizman B**\***.The degradation of promyelocytic leukemia and Sp100 proteins by herpes simplex virus 1 is mediated by the ubiquitin-conjugating enzyme UbcH5a. Proc Natl Acad Sci U S A. 100(15):8963-8. (2003).
17. **Gu H,** Schoenberg DR**\***.U2AF modulates poly(A) length control by the poly(A)-limiting element. Nucleic Acids Res. 31(21):6264-71. (2003).
18. Das Gupta J, **Gu H,** Schoenberg DR**\***.Position and sequence requirements for poly(A) length regulation by the poly(A) limiting element. RNA. 7(7):1034-42. (2001).
19. **Gu H,** Das Gupta J, Schoenberg DR**\***.The poly(A)-limiting element is a conserved cis-acting sequence that regulates poly(A) tail length on nuclear pre-mRNAs. Proc Natl Acad Sci U S A. 96(16):8943-8. (1999).
20. Das Gupta J, **Gu H,** Chernokalskaya E, Gao X, Schoenberg DR**\***.Identification of two cis-acting elements that independently regulate the length of poly(A) on Xenopus albumin pre-mRNA. RNA. 4(7):766-76. (1998).
21. **Gu H,** Wang Y**\***, Xu X, Wei X, Fong M.Increase of the expression of midecamycin 4"-hydroxyl propionyltransferase gene (mpt) by a promoter-like fragment from the midecamycin producing strain. Chin J Biotechnol.12(3):147-52. (1996).
22. **Gu H,** Wang Y**\***. Structure analysis of a DNA fragment containing strong promoter activity from Streptomyces mycarofaciens 1748. Yi Chuan Xue Bao. 23(6):469-76. (1996)

**Presentations:**

1. ICP0 Elements Regulating its E3 Ubiquitin Ligase Activity and Substrate Recognition. Yi Zheng, Subodh K. Samrat, and Haidong Gu (Oral presentation)

The 35th Annual Meeting of the American Society for Virology 2016

1. ICP0 Binding Partners from Cell DNA Repair Machinery and Their Implication in HSV-1 Replication. Haidong Gu and Hyunah Kim (Poster presentation)

CSH Asia 2016 Conference on DNA Metabolism, Genome Stability and Diseases

1. Identification of Elements Regulating ICP0 E3 Ubiquitin Ligase Activity and Substrate Recognition. Yi Zheng, Subodh K. Samrat, and Haidong Gu (Poster presentation)

The 41st Annual International Herpesvirus Workshop 2016

1. ICP0 Binding Partners from Cell DNA Repair Machinery and Their Implication in HSV-1 Replication. Haidong Gu and Hyunah Kim (Poster presentation)

The 41st Annual International Herpesvirus Workshop 2016

1. Proline-Rich Elements Located in the Central Region of HSV-1 ICP0 Redundantly Facilitate its Fusion with ND10 Nuclear Bodies. Yi Zhengand Haidong Gu (Oral presentation)

The 40th Annual International Herpesvirus Workshop 2015

1. Regulations of the ICP0 Elements on its E3 Ligase Activity and Substrate Differentiation. Yi Zheng, Subodh K. Samrat and Haidong Gu (Poster presentation)

The 40th Annual International Herpesvirus Workshop 2015

1. Proline-Rich Elements Located in the Central Region of Infected Cell Protein 0 of Herpes Simplex Virus 1 Redundantly Facilitate its Fusion with ND10 Nuclear Bodies. Yi Zhengand Haidong Gu (Oral presentation)

The 34th Annual Meeting of the American Society for Virology 2015

1. Identification of a Bipartite ND10-Entry Signal Responsible for the Fusion of Herpes Simplex Virus 1 Infected Cell Protein 0 with ND10 Nuclear Bodies.Yi Zheng and Haidong Gu (Oral presentation)

The 33rd Annual Meeting of the American Society for Virology 2014

1. Localization of ICP0 to ND10: A Concerted process of Docking, Entry and Retention. Haidong Gu and Bernard Roizman

The 37th Annual International Herpesvirus Workshop 2012

1. Herpes simplex virus neurotropism in SCID mouse-human dorsal root ganglion xenografts. Leigh Zerboni, Xibing Chi, Michelle Lai, Haidong Gu, Bernard Roizman and Ann Arvin

The 36th Annual International Herpesvirus Workshop 2011

1. Delineation of ICP0 functional domains. Haidong Gu and Bernard Roizman

The 35th Annual International Herpesvirus Workshop 2010

1. Two functions of HSV-1 ICP0: the inhibition of silencing by the CoREST/REST/ HDAC complex and degradation of PML. Haidong Gu and Bernard Roizman

Keystone Symposia, Epigenetics, Development and Human Disease 2009

1. The order of early events in HSV gene expression Haidong Gu and Bernard Roizman

The 34th Annual International Herpesvirus Workshop 2009

**Invited Seminars**

1. ICP0: A master regulator against host defenses. Department of Chemistry, College of Liberal Arts and Sciences, Wayne State University. 2016
2. ICP0: A master regulator against host defenses. College of Life Sciences & Bioengineering, Beijing Jiaotong University. 2016
3. ICP0: A master regulator against host defenses. College of Veterinary Medicine, China Agricultural University. 2016
4. ICP0: A master regulator against host defenses. School of Biomedical Engineering and Med-X Research Institute, Shanghai Jiao Tong University. 2016
5. ICP0: A master regulator against host defenses. Department of Biochemistry and Molecular Biology, School of Medicine, Wayne State University. 2016
6. ICP0: A master regulator against host defenses. Department of Microbiology, Molecular Genetics and Immunology, University of Kansas Medical Center. 2015
7. A thousand-armed master – dissecting the multiple functions of ICP0. Dr. Bernard Roizman Symposium, Department of Microbiology, University of Chicago. 2013
8. Delineation of ICP0 domains required for ND10 localization. Department of Immunology and Microbiology, School of Medicine, Wayne State University. 2011