

**BIOGRAPHICAL SKETCH**

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NAME <b>ANNA SUK-FONG LOK</b>		POSITION TITLE <b>Professor of Internal Medicine</b>	
eRA COMMONS USER NAME (credential, e.g., agency login) <b>ASFLOK</b>			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Hong Kong, Hong Kong	M.B., B.S.	1977	Medicine
Queen Mary Hospital, Hong Kong	Intern/Res	1977-81	Medicine
Royal Free Hospital, London, U.K., Fellowship	Fellowship	1981-83	Hepatology
University of Hong Kong, Hong Kong	M.D.	1991	Thesis on Hepatitis B

**A. Positions and Honors.**

- 1981-1983 Lecturer in Medicine, Academic Department of Medicine, Royal Free Hospital, London, UK  
 1983-1992 Lecturer/Sen Lecturer/Reader in Medicine, Department of Medicine, University of Hong Kong  
 1988-1989 Visiting Associate Professor, Division of Molecular Virology and Immunology, Georgetown University, Washington D.C., USA  
 1992-1995 Assoc Prof / Prof of Medicine, Tulane University School of Medicine, New Orleans, LA, USA  
 1995- Professor of Internal Medicine, University of Michigan Medical Center, Ann Arbor, MI, USA

**Honors, Committees, Journal Editors**

- 1996 Hugh R. Butt Award for Distinguished Achievement in Clinical Research in Hepatology, ADHF  
 2001-3 Councilor-at-large, American Association for the Study of Liver Disease  
 2001-6 Associate Editor, HEPATOLOGY  
 2004- National Board of Directors, American Liver Foundation  
 2005-2010 Bristol-Myers Squibb Foundation Freedom to Discover Award in Virology  
 2007- Co-Editor, Journal of Viral Hepatitis  
 2008 Hepatitis B Foundation – Distinguished Scientist Award  
 2008 American Gastroenterology Association – Outstanding Women in Science  
 2008 Alice Lohrman Andrews Research Professor in Hepatology

**B. Selected peer-reviewed publications (in chronological order).** (selected from ~300)

- Lok ASF**, Lai CL, Leung N, Yao GB, Cui ZY, Schiff ER, Deinstag JL, Heathcote EJ, Little NR, Griffiths DA, Gardner SD, Castiglia M. Long-term safety of lamivudine treatment in patients with chronic hepatitis B. *Gastroenterology* 125:1714-1722, 2003.
- Shehab TM, Fontana RJ, Oberhelman K, Marrero JA, Su GL, **Lok ASF**. Effectiveness of interferon- $\omega$ 2b and ribavirin therapy in treatment naïve chronic hepatitis C patients in an academic clinical practice. *Clin Gastro and Hepatol* 2: 425-431, 2004.
- Fung SK, Wong F, Hussain M, **Lok ASF**. Sustained response after a 2-year course of lamivudine treatment of hepatitis B e antigen-negative chronic hepatitis B. *J Viral Hep* 11:432-8, 2004
- Shiffman ML, Di Bisceglie AM, Lindsay KL, Morishima C, Wright EC, Everson GT, **Lok AS**, Morgan TR, Bonkovsky HL, Lee WM, Dienstag JL, Ghany MG, Goodman ZD, Everhart JE and the HALT-C Trial Group. Peginterferon alfa-2a and ribavirin in patients with chronic hepatitis C who have failed prior treatment. *Gastroenterology*. 126:1015-1023, 2004.
- Lee WM, Dienstag JL, Lindsay KL, **Lok AS**, Bonkovsky HL, Shiffman ML, Everson GT, Di Bisceglie AM, Morgan TR, Ghany MG, Morishima C, Wright EC, Everhart JE. Evolution of the HALT-C Trial: Pegylated Interferon as Maintenance Therapy for Chronic Hepatitis C in Previous Interferon Nonresponders. *Controlled Clinical Trials* 25:472-492, 2004.
- Marrero JA, Fontana RJ, Fu S, Conjeevaram HS, Su GL, **Lok AS**. Alcohol, Tobacco and Obesity Are Synergistic Risk Factors for Hepatocellular Carcinoma. *J Hepatol* 42:218-224, 2005
- Wai CT, Fontana RJ, Polson J, Hussain M, Shakil AO, Han SH, Davern TJ, Lee WM, **Lok ASF** and the US Acute Liver Failure Study Group. Clinical Outcome and virological characteristics of hepatitis B-related acute liver failure in the United States. *J Viral Hep* 12:192-8, 2005.
- Marrero JA, Fontana RJ, Barrat A, Askari F, Conjeevaram HS, Su GL, **Lok AS**. Prognosis of hepatocellular carcinoma: comparison of 7 staging systems in an American cohort. *Hepatology* 41:707-716, 2005.
- Lok ASF**, Ghany MG, Goodman ZD, Wright EC, Everson GT, Sterling RK, Everhart JE, Lindsay KL, Bonkovsky HL, DiBisceglie AM, Lee WM, Morgan TR, Dienstag JL, Morishima C and the HALT-C Trial Group. Predicting cirrhosis in patients with hepatitis C based on standard laboratory tests: results in the HALT-C cohort. *Hepatology* 42:282-292, 2005.

10. Fung SK, Andreone P, Han SH, K. Reddy R, Regev A, Keeffe EB, Hussain M, Cursaro C, Richtmyer P, Marrero JA, **Lok ASF**. Adefovir-resistant Hepatitis B can be Associated with Viral Rebound and Hepatic Decompensation. *J Hepatol* 43:937-943, 2005.
11. Fung SK, Chae HB, Fontana RJ, Conjeevaram H, Marrero J, Oberhelman K, Hussain M, **Lok ASF**. Virologic response and resistance to adefovir in patients with chronic hepatitis B. *J Hepatol*: 44:283-290, 2006.
12. Dickson RC, Terrault NA, Ishitani M, Reddy KR, Sheiner P, Luketic V, Soldevila-Pico C, Fried M, Jensen D, Brown RS Jr, Horwith G, Brundage R, **Lok A**. Protective antibody levels and dose requirements for IV 5% Nabi Hepatitis B immune globulin combined with lamivudine in liver transplantation for hepatitis B-induced end stage liver disease. *Liver Transpl*; 29:124-133, 2006.
13. Hussain M, Fung S, Libbrecht E, Sablon E, Cursaro C, Andreone P, **Lok ASF**. Sensitive line probe assay that simultaneously detects mutations conveying resistance to lamivudine and adefovir. *J Clin Microbiol*; 44: 1094-7, 2006.
14. Lai CL, Shouval D, **Lok AS**, Chang TT, Cheinquer H, Goodman Z, DeHertogh D, Wilber R, Zink RC, Cross A, Colonna R, Fernandes L for the A1463027 BEHoLD Study Group. A randomized, double-blind comparison of entecavir to lamivudine for treatment of HBeAg-negative chronic hepatitis B in nucleoside-naïve patients. *N Engl J Med*; 354:1011-1020, 2006.
15. Chang TT, Gish RG, Gadano A, Sollano J, Chao YC, **Lok AS**, Han KH, Goodman Z, Zhy J, Cross A, DeHertogh D, Wilber R, Colonna R, Apelian D for the Entecavir BEHoLD A1463022 Study Group. A randomized, double-blind comparison of entecavir to lamivudine for treatment of HBeAg-positive chronic hepatitis B in nucleoside-naïve patients. *N Engl J Med*; 354:1001-1010, 2006.
16. Yim HJ, Hussain M, Liu Y, Wong SN, Fung SK, **Lok ASF**. Evolution of multi-drug resistant hepatitis B virus during sequential therapy: implications on rescue therapy. *Hepatology*; 44: 703-712, 2006.
17. Everson GT, Hoefs JC, Seeff LB, Bonkovsky HL, Naishadham D, Shiffman ML, Kahn JA, **Lok ASF**, Di Bisceglie AM, Lee WM, Dienstag JL, Ghany MG, Morishima C, and the HALT-C Trial Group. Impact of disease severity on outcome of antiviral therapy for chronic hepatitis C: lessons from the HALT-C Trial. *Hepatology* 44:1675-1684, 2006.
18. Wong SN, Reddy KR, Keeffe EB, Han SH, Gaglio PJ, Perrillo RP, Tran TT, Pruett TL, **Lok ASF** and the NIH HBV-OLT Study Group. Comparison of clinical outcomes in chronic hepatitis B liver transplant candidates with and without hepatocellular carcinoma. *Liver Transpl* 13:334-342, 2007.
19. **Lok ASF**, Everhart JE, Chung RT, Padmanabhan L, Greenson JK, Shiffman ML, Everson GT, Lindsay KL, Bonkovsky HL, Di Bisceglie AM, Lee WT, Morgan TR, Ghany MG, Morishima C and the HALT-C Trial Group. *Clin Gastro Hepatol* 5:245-254, 2007.
20. Terrault NA, Shiffman ML, **Lok ASF**, Saab S, Tong L, Brown RS, Everson GT, Reddy R, Fair JH, Kulik LM, Pruett TL, Seeff LB and the A2ALL Study Group. Outcomes in hepatitis C virus infected recipients of living donor versus deceased donor liver transplantation. *Liver Transpl*; 13:122-9, 2007.
21. Shiffman ML, Ghany MG, Morgan TR, Wright EC, Everson GT, Lindsay KL, **Lok ASF**, Bonkovsky HL, Di Bisceglie AM, Lee WM, Dienstag JL, Gretch DR, and the HALT-C Trial Group. Impact of reducing peginterferon alfa-2a and ribavirin dose on virologic response in patients with chronic hepatitis C. *Gastroenterology* 132:103-12, 2007.
22. Wong SN, Chu CJ, Wai CT, Howell T, Moore C, Fontana RJ and **Lok ASF**. HBV recurrence is infrequent after withdrawal of long-term hepatitis B immune globulin (HBIG) in patients receiving maintenance nucleos(t)ide analogue (NA) therapy. *Liver Transpl* 13:374-381, 2007.
23. Liu Y, Hussain M, Wong S, Fung SK, Yim HJ, **Lok AS**. A genotype-independent real-time PCR assay for quantification of hepatitis B virus DNA. *J Clin Microbiol* 45:553-8, 2007.
24. Fontana RJ, Bieliauskas LA, Lindsay KL, Back-Madruga C, Wright EC, Snow KK, **Lok ASF**, Kronfol Z, Latha Padmanabhan L and the HALT-C Trial Group. Cognitive function does not worsen during peginterferon and ribavirin treatment of chronic hepatitis C. *Hepatology* 45:1154-63, 2007.
25. Hussain M, Soldevila-Pico C, Emre S, Luketic V, **Lok AS** and the NIH HBV-OLT Study Group. Presence of intrahepatic (total and ccc) HBV DNA is not predictive of HBV recurrence after liver transplant. *Liver Transplantation* 13:1137-44, 2007.
26. Fisher RA, Kulik LM, Freise CF, **Lok ASF**, Shearon TH, Brown RS, Ghobrial RM, Fair JH, Olthoff KM, Kam I, Berg CL and the A2ALL Study Group. Hepatocellular carcinoma recurrence and death following living and diseased donor liver transplantation: the A2ALL Study. *Am J Transpl* 7:1601-8, 2007.
27. Osborn MK, Han SH, Regev A, Bzowej NH, Ishitani MB, Tran TT, **Lok ASF** and the NIH HBV-OLT Study Group. Outcomes of patients with hepatitis B who developed antiviral resistance while on the liver transplant waiting list. *Clin Gastroenterol and Hepatol* 5:1454-1461, 2007.
28. Gish RG, **Lok AS**, Chang TT, de Man RA, Gadano A, Han KH, Chao YC, Lee SD, Harris M, Yang J, Colonna R, Brett-Smith H. Entecavir therapy up to 96 weeks in patients with HBeAg-positive chronic hepatitis B. *Gastroenterology* 133: 1437-1444, 2007.
29. Seeff LB, Curto TM, Szabo G, Everson GT, Bonkovsky H, Dienstag JL, Shiffman ML, Lindsay KL, **Lok ASF**, DiBisceglie AM, Lee WM, Ghany MG and the HALT-C Trial Group. Use of Herbal Products by Persons Enrolled in the Hepatitis C Antiviral Long-Term Treatment against Cirrhosis (HALT-C) Trial. *Hepatology* 47: 605-12, 2008.
30. Tan J, Degertekin B, Wong SN, Hussain M, Oberhelman K, **Lok ASF**. Tenofovir monotherapy is effective in hepatitis B patients with antiviral treatment failure to adefovir in the absence of adefovir-resistant mutations. *J Hepatol* 48: 391-8, 2008.

31. Lindsay KL, Morishima C, Wright EC, Dienstag JL, Shiffman ML, Everson GT, **Lok AS**, Bonkovsky HL, Lee WM, Morgan TR, Ghany MG, and the HALT-C Trial Group. Blunted cytopenias and weight loss: new correlates of virologic null response to re-treatment of chronic hepatitis C. *Clin Gastroenterol and Hepatol* 6: 234-41, 2008.
32. Campsen J, Blei AT, Emond JC, Everhart JE, Freise CE, **Lok AS**, Saab S, Wisniewski KA, Trotter J and the A2ALL Study Group. Outcomes of living donor liver transplantation for acute liver failure: A2ALL study. *Liver Transplantation* 14:1273-80, 2008.
33. Gaglio P, Singh S, Degertekin, B, Ishitani M, Hussain M, Perrillo R, **Lok ASF** and the NIH HBV-OLT Study Group. Impact of HBV genotype on pre- and post- liver transplantation outcomes. *Liver Transplantation* 14: 1420-7, 2008.
34. Volk ML, **Lok AS**, Ubel PA, Viain S. Beyond Utilitarianism: a method for analyzing competing ethical principles in a decision analysis of liver transplantation. *Med Decis Making* 28: 763-772, 2008.
35. Volk ML, **Lok ASF**, Pelletier SJ, Ubel PA, Hayward RA. The impact of MELD allocation policy on utilization of high risk organs for liver transplantation. *Gastroenterology* 135:1568-74, 2008.
36. Sharma P, Schaubel DE, Sima CS, Merion RM, **Lok AS**. Re-weighting the Model for End-Stage Liver Disease Score Components. *Gastroenterology* 135:1575-81, 2008.
37. DiBisceglie AM, Shiffman ML, Everson GT, Lindsay KL, Everhart JE, Wright EC, Lee WM, **Lok AS**, Bonkovsky HL, Morgan TR, Ghany MG, Morishima C, Snow KK, Dienstag JL for the HALT-C Trial Group. Prolonged therapy of advanced chronic hepatitis C with low dose peginterferon. *NEJM* 359: 2429-41, 2008.
38. **Lok AS**, Seeff LB, Morgan TR, Di Bisceglie AM, Sterling RK, Curto TM, Everson GT, Lindsay KL, Lee WM, Bonkovsky HL, Dienstag JL, Ghany MG, Morishima C, Goodman ZD, and the HALT-C Trial Group. Incidence of hepatocellular carcinoma and associated risk factors in hepatitis C-related advanced liver disease. *Gastroenterology* 136: 138-148, 2009.
39. Friese CE, Gillespie BW, Koffron AJ, **Lok ASF**, Pruett TL, Emond JC, Fair JH, Olthoff KM, Trotter JF, Ghobrial RM, Everhart JE and the A2ALL Study Group. Recipient Morbidity after Living and Deceased Donor Liver Transplantation: Findings from the A2ALL Retrospective Cohort Study. *Am J Transpl* 8:2569-79, 2008.
40. Degertekin B, Hussain M, Tan J, Oberhelman K, **Lok AS**. Sensitivity and accuracy of an updated line probe assay (HBV DR v.3) in detecting mutations associated with hepatitis B antiviral resistance. *J Hepatol* 50: 42-8, 2009.

#### Reviews

41. **Lok ASF**, McMahon BJ. AASLD Practice Guidelines: Hepatitis B. *Hepatology* 45:507-539, 2007.
42. Hoofnagle JH, Doo E, Liang TJ, Fleischer R, **Lok ASF**. Management of Hepatitis B: Summary of a Clinical Research Workshop. *Hepatology* 45:1056-67, 2007.
43. Lok AS, Zoulim F, Locarnini S, Bartholomeusz A, Ghany M, Pawlotsky JM, Liaw YF, Mizokami M, Kuiken C. Antiviral drug-resistant HBV: Standardization of nomenclature and assays and recommendations for management. *Hepatology* 46:254-265, 2007.
44. Degertekin B and Lok AS. When to start and stop hepatitis B treatment: can one set of criteria apply to all patients regardless of age at infection? *Annals Intern Med* 147:62-64, 2007.
45. Degertekin B and Lok AS. Monitoring antiviral resistance in patients receiving nucleos(t)ide analogue therapies for hepatitis B: which method should be used? *J Hepatol* 48: 892-4, 2008.

#### A. Research Support.

##### CURRENT

NIH NO1-DK-9-2323 (Lok)

05/01/99-04/30/10

Role: PI

Hepatitis C Clinical Trial-Clinical Center

The main goal of this study is to determine if long-term antiviral treatment can decrease progression to cirrhosis, liver failure and hepatocellular carcinoma in patients with chronic hepatitis C.

NIH UO1-DK-57577 (Lok)

06/01/01-12/31/09

Role: PI

Prevention of recurrent hepatitis B after liver transplantation

The main aim of this study is to determine the most cost-effective prophylaxis of recurrent hepatitis B after liver transplantation.

Freedom to Discover Award (Lok)

4/1/05 – 4/1/10

Bristol-Myers Squibb Foundation

Role: PI

This is an unrestricted biomedical research grant to recognize achievement and encourage distinguished investigators to take chances and explore new avenues in research

NIH U01 DK62498-01 (Merion)

8/21/02-12/31/09

Role: Co-Investigator

Living Donor Liver Transplant Data Coordinating Center

This study will examine the outcome of donors and recipients of adult to adult living donor liver transplantation.

Supplement for LADR

8/1/04-12/31/09

NIH (Merion)

Role: Co-investigator

This clinical trial will examine the role of pegylated interferon and ribavirin treatment in hepatitis C patients participating in the adult to adult living donor liver transplant study, in preventing HCV recurrence post-transplant.

NIH R01 DK066840 (Beretta)

9/30/04-8/31/09

Subaward from Fred Hutchinson Cancer Research Center

Novel markers for HCV-related HCC

Role: Co-Investigator

This is a study on the identification of novel markers of hepatocellular carcinoma using proteomics approach

Bill and Melinda Gates Foundation (Baker)

7/1/05-6/30/10

Nanoemulsions as adjuvants for nasal-spray vaccines

Role: Consultant

The major goal is to develop needle-free vaccine for Hepatitis B that is readily producible in developing countries

Gilead (Lok)

7/1/05-9/30/11

Role: PI

A randomized, double-blind, controlled evaluation of tenofovir DF versus adefovir dipivoxil for the treatment of presumed precore mutant chronic hepatitis B protocol 174-0102

The major goal is to compare the safety and efficacy of tenofovir and adefovir for patients with HBeAg-negative chronic hepatitis B.

Gilead (Lok)

7/1/05-9/30/11

Role: PI

A randomized, double-blind, controlled evaluation of tenofovir DF versus adefovir dipivoxil for the treatment of HBeAg positive chronic hepatitis B protocol 174-0103

The major goal is to compare the safety and efficacy of tenofovir and adefovir for patients with HBeAg-positive chronic hepatitis B.

CDC PO 200-2007-M-21852 (Teo)

9/1/07-8/30/10

Role: co-I

Antiviral-drug resistant mutations in hepatitis B patients

This study evaluates the impact of HBIG and antiviral drug-resistant HBV mutations on HBsAg detection

Bristol-Myers Squibb (Lok)

8/6/07-8/5/11

Role: PI

A comparative study of chronic hepatitis B patients treated with entecavir plus tenofovir combination therapy versus entecavir monotherapy in adults who are treatment-naïve to nucleosides and nucleotides: the BE-LOW study.

This study compares entecavir + tenofovir versus entecavir monotherapy in nucleos/tide naïve hepatitis B patients

NIH R21 DK074531-01A1 (Tong)

4/1/08-3/31/10

Role: col

Hepatitis B virus immune escape mutants

This study examines the impact of HBV S escape mutants on HBV replication, virion secretion and HBsAg secretion

GlaxoSmithKline (Lok)

8/13/07-7/1/11

Role: PI

Randomized, placebo controlled multi-centre study to assess the efficacy and safety of eltrombopag in thrombocytopenic subjects with hepatitis C virus (HCV) infection who are otherwise eligible to initiate antiviral therapy (peginterferon alfa-2a plus ribavirin). Enable 1

This study evaluates the safety and efficacy of eltrombopag in increasing platelet count to the extent that treatment with peginterferon and ribavirin is possible.

Schering Plough (Lok)

9/25/08-3/24/11

Role: PI

A phase 3, safety and efficacy study of boceprevir in previously untreated subjects with chronic hepatitis C genotype 1.

This study evaluates the safety and efficacy of boceprevir in combination with pegylated interferon and ribavirin in interferon-naïve patients with genotype 1 HCV infection.

NIH U01 DK082863-01 (Lok)

09/30/08-5/31/15

Role: PI

Hepatitis B Clinical Research Network Clinical Center: Michigan – Hawaii Consortium

This clinical research network will study the natural history and optimal treatment of chronic HBV infection.

Hoffmann-La Roche (Lok)

8/12/2009-11/30/2011

A randomized, partially-blind study to evaluate the safety, tolerability and effect on virological response of treatment with HCV protease inhibitor RO5190591 in combination with Pegasys and Copegus for 12 or 24 weeks, versus treatment with Pegasys and Copegus alone, in treatment-naïve patients with chronic hepatitis C genotype 1 virus infection