

## Hannah Akuffo Publication List

### ORIGINAL ARTICLES

#### 2000 to 2010

1. Tasew G, Nylén S, Lieke T, Wolday D, Lemu B, Meless H, Ruffin N, Asseffa A, Yagita H, Britton S, Akuffo H, Chiodi F, Eidsmo L. FasL and TRAIL are potential therapeutic targets to inhibit ulceration during cutaneous leishmaniasis (*in press PLoS Negl Disease, 2010*)
2. Tasew G, Kebede A, Wolday D, Gadisa E, Britton S, Eidsmo L, Akuffo H. Low-cost liquid medium for in vitro cultivation of Leishmania parasites in low-income countries. *Glob Health Action*. 2009 Oct 22;2.
3. Lieke T, Nylén S, Eidsmo L, McMaster WR, Mohammadi AM, Khamesipour A, Berg L, Akuffo H. Leishmania surface protein gp63 binds directly to human natural killer cells and inhibits proliferation. *Clin Exp Immunol*. 2008 Aug;153(2):221-30.
4. Elias D, Britton S, Aseffa A, Engers H, Akuffo H. Poor immunogenicity of BCG in helminth infected population is associated with increased in vitro TGF-beta production. *Vaccine*. 2008 Jul 23;26(31):3897-902.
5. Eidsmo L, Fluor C, Rethi B, Eriksson Ygberg S, Ruffin N, De Milito A, Akuffo H, Chiodi F. FasL and TRAIL induce epidermal apoptosis and skin ulceration upon exposure to Leishmania major. *Am J Pathol*. 2007 Jan;170(1):227-39
6. Nylén S, Khamesipour A, Mohammadi A, Jafari-Shakib R, Eidsmo L, Noazin S, Modabber F, Akuffo H. Surrogate markers of immunity to Leishmania major in leishmanin skin test negative individuals from an endemic area re-visited. *Vaccine*. 2006 Nov 17;24(47-48):6944-54
7. Elias D, Mengistu G, Akuffo H, Britton S. Are intestinal helminths risk factors for developing active tuberculosis? *Trop Med Int Health*. 2006 Apr;11(4):551-8
8. Eidsmo L, Nylén S, Khamesipour A, Hedblad MA, Chiodi F, Akuffo H. The Contribution of the Fas/FasL Apoptotic Pathway in Ulcer Formation during Leishmania major-Induced Cutaneous Leishmaniasis. *Am J Pathol*. 2005 Apr;166(4):1099-108.
9. Elias D, Akuffo H, Britton S. PPD induced in vitro interferon gamma production is not a reliable correlate of protection against Mycobacterium tuberculosis. *Trans R Soc Trop Med Hyg*. 2005 May;99(5):363-8.
10. Elias D, Akuffo H, Thors C, Pawlowski A, Britton S. Low dose chronic Schistosoma mansoni infection increases susceptibility to Mycobacterium bovis BCG infection in mice. *Clin Exp Immunol*. 2005 Mar;139(3):398-404.
11. Elias D, Akuffo H, Pawlowski A, Haile M, Schon T, Britton S. Schistosoma mansoni infection reduces the protective efficacy of BCG vaccination against virulent Mycobacterium tuberculosis. *Vaccine*. 2005 Feb 3;23(11):1326-34.
12. Nylén S, Maasho K, McMahon-Pratt D, Akuffo H. Leishmanial amastigote antigen P-2 induces major histocompatibility complex class II-dependent natural killer-cell reactivity in cells from healthy donors. *Scand J Immunol*. 2004 Mar;59(3):294-304.
13. Maasho K, McMahon-Pratt D, Raita J, Raud M, Britton S, Soong L, Akuffo H. Evaluation of amastigote reactive cells in human cutaneous leishmaniasis caused by Leishmania aethiopica. *Clin Exp Immunol*. 2003 May;132(2):316-22.
14. Nylén S, Maasho K, Soderstrom K, Ilg T, Akuffo H. Live Leishmania promastigotes can directly activate primary human natural killer cells to produce interferon-gamma. *Clin Exp Immunol*. 2003 Mar;131(3):457-67.
15. Satti I, el Hassan A, Khalil el TA, Akuffo H. The effect of repeated leishmanin skin testing on the immune responses to Leishmania antigen in healthy volunteers. *Trans R Soc Trop Med Hyg*. 2002 Sep-Oct;96(5):565-7.

16. Eidsmo L, Wolday D, Berhe N, Sabri F, Satti I, El Hassan AM, Sundar S, Chiodi F, Akuffo H. Alteration of Fas and Fas ligand expression during human visceral leishmaniasis. *Clin Exp Immunol*. 2002 Nov;130(2):307-13.
17. Guzman GE, Lavebratt C, Lujan R, Akuffo H. Diagnosis of onchocerciasis using highly specific and sensitive native proteins. *Scand J Infect Dis*. 2002;34(8):583-90.
18. Guzman GE, Awadzi K, Opoku N, Narayanan RB, Akuffo HO. Comparison between the skin snip test and simple dot blot assay as potential rapid assessment tools for Onchocerciasis in the postcontrol era in Ghana. *Clin Diagn Lab Immunol*. 2002 Sep;9(5):1014-20.
19. Wolday D, Berhe N, Akuffo H, Desjeux P, Britton S. Emerging Leishmania/HIV co-infection in Africa. *Med Microbiol Immunol (Berl)*. 2001 Nov;190(1-2):65-7.
20. Maasho K, Wolday D, Edjigu M, Soderstrom K, Britton S, Akuffo H. Induction and abrogation of LACK reactive cells in the evolution of human leishmaniasis. *Clin Exp Immunol*. 2001 May;124(2):255-61.
21. Nysten S, Mortberg U, Kovalenko D, Satti I, Engstrom K, Bakhiet M, Akuffo H. Differential induction of cellular responses by live and dead Leishmania promastigotes in healthy donors. *Clin Exp Immunol*. 2001 Apr;124(1):43-53.
22. Elias D, Wolday D, Akuffo H, Petros B, Bronner U, Britton S. Effect of deworming on human T cell responses to mycobacterial antigens in helminth-exposed individuals before and after bacille Calmette-Guerin (BCG) vaccination. *Clin Exp Immunol*. 2001 Feb;123(2):219-25.
23. Maasho K, Satti I, Nysten S, Guzman G, Koning F, Akuffo H. A Leishmania homologue of receptors for activated C-kinase (LACK) induces both interferon-gamma and interleukin-10 in natural killer cells of healthy blood donors. *J Infect Dis*. 2000 Aug;182(2):570-8. Epub 2000 Jul 24.
24. Wolday D, Berhe N, Britton S, Akuffo H. HIV-1 alters T helper cytokines, interleukin-12 and interleukin-18 responses to the protozoan parasite Leishmania donovani. *AIDS*. 2000 May 26;14(8):921-9.

### **1990 to 1999**

25. Akuffo H, Alexis A, Eidsmo L, Saed A, Nysten S, Maasho K. Natural killer cells in cross-regulation of IL-12 by IL-10 in Leishmania antigen-stimulated blood donor cells. *Clin Exp Immunol*. 1999 Sep;117(3):529-34.
26. Akuffo H, Hultmark D, Engstrom A, Frohlich D, Kimbrell D. Drosophila antibacterial protein, cecropin A, differentially affects non-bacterial organisms such as Leishmania in a manner different from other amphipathic peptides. *Int J Mol Med*. 1998 Jan;1(1):77-82.
27. Montelius S, Maasho K, Pratlong F, Lebbad M, Gregory L, Akuffo H. Skin rash for 15 years. *Lancet*. 1998 Oct 31;352(9138):1438. No abstract available.
28. Wolday D, Akuffo H, Fessahaye G, Valentine A, Britton S. Live and killed human immunodeficiency virus type-1 increases the intracellular growth of Leishmania donovani in monocyte-derived cells. *Scand J Infect Dis*. 1998;30(1):29-34.
29. Maasho K, Sanchez F, Schurr E, Hailu A, Akuffo H. Indications of the protective role of natural killer cells in human cutaneous leishmaniasis in an area of endemicity. *Infect Immun*. 1998 Jun;66(6):2698-704.
30. Akuffo H, Maasho K, Blomstedt M, Hojeberg B, Britton S, Bakhiet M. Leishmania aethiopica derived from diffuse leishmaniasis patients preferentially induce mRNA for interleukin-10 while those from localized leishmaniasis patients induce interferon-gamma. *J Infect Dis*. 1997 Mar;175(3):737-41.
31. Lavebratt C, Ljungstrom I, Guzman G, Thors C, Eriksson T, Akuffo HO. Evaluation of serological assays for diagnosis of onchocercosis. *Scand J Infect Dis*. 1997;29(1):65-70.
32. Guzman GE, Akuffo HO, Lavebratt C, Lujan R. Differential immune response to Onchocerca volvulus: IgG4 antibody responses differ in onchocerciasis patients from Guatemala and Ghana. *Acta Trop*. 1997 Jan;63(1):15-31.

33. Akuffo H, Maasho K, Lavebratt C, Engstrom K, Britton S. Ivermectin-induced immunopotentiality in onchocerciasis: recognition of selected antigens following a single dose of ivermectin. *Clin Exp Immunol.* 1996 Feb;103(2):244-52.
34. Lavebratt C, Dalhammar G, Awadzi K, Akuffo HO. Field diagnosis of onchocerciasis in an area of high versus low endemicity: evaluation of the Dot Blot Assay. *Scand J Infect Dis.* 1996;28(1):75-81.
35. Akuffo H, Darce M, Maasho K, Berhan TY. In vivo evaluation of immune responses in leishmaniasis: the use of cross-species leishmanin preparations for skin testing. *Am J Trop Med Hyg.* 1995 Jul;53(1):16-22.
36. Shiddo SA, Aden Mohamed A, Akuffo HO, Mohamud KA, Herzi AA, Herzi Mohamed H, Huldt G, Nilsson LA, Ouchterlony O, Thorstensson R. Visceral leishmaniasis in Somalia: prevalence of markers of infection and disease manifestations in a village in an endemic area. *Trans R Soc Trop Med Hyg.* 1995 Jul-Aug;89(4):361-5.
37. Shiddo SA, Akuffo HO, Mohamed AA, Huldt G, Nilsson LA, Ouchterlony O, Thorstensson R. Visceral leishmaniasis in Somalia: prevalence of leishmanin-positive and seropositive inhabitants in an endemic area. *Trans R Soc Trop Med Hyg.* 1995 Jan-Feb;89(1):21-4.
38. Akuffo H, Maasho K. High serum-soluble interleukin-2 receptor is not associated with the immunosuppression in diffuse cutaneous leishmaniasis. *Scand J Immunol.* 1994 May;39(5):505-11.
39. Lavebratt C, Dalhammar G, Adamafio NA, Nykanen-Dejerud U, Mingarini K, Ingemarsson K, Opoku N, Akuffo HO. A simple dot blot assay adaptable for field use in the diagnosis of onchocerciasis: preparation of an adult worm antigen fraction which enhances sensitivity and specificity. *Trans R Soc Trop Med Hyg.* 1994 May-Jun;88(3):303-6.
40. Wolday D, Akuffo H, Britton S, Hathaway A, Sander B. HIV-1 inhibits Leishmania-induced cell proliferation but not production of interleukin-6 and tumour necrosis factor alpha. *Scand J Immunol.* 1994 Apr;39(4):380-6.
41. Akuffo H, Maasho K, Howe R. Natural and acquired resistance to Leishmania: cellular activation by Leishmania aethiopica of mononuclear cells from unexposed individuals is through the stimulation of natural killer (NK) cells. *Clin Exp Immunol.* 1993 Dec;94(3):516-21.
42. Mohamed AM, Taye T, Akuffo HO. Mechanisms of resistance to Leishmania aethiopica. I. Interferon-gamma in combination with a cytokine (not tumor necrosis factor-alpha) is required, but cannot act alone in the inhibition of intracellular forms of L. aethiopica in THP1 cells. *Eur J Immunol.* 1992 Sep;22(9):2331-7.
43. Akuffo HO. Non-parasite-specific cytokine responses may influence disease outcome following infection. *Immunol Rev.* 1992 Jun;127:51-68. Review.
44. Mengistu G, Akuffo H, Fehniger TE, Negese Y, Nilsen R. Comparison of parasitological and immunological methods in the diagnosis of leishmaniasis in Ethiopia. *Trans R Soc Trop Med Hyg.* 1992 Mar-Apr;86(2):154-7.
45. Akuffo HO, Britton SF. Contribution of non-Leishmania-specific immunity to resistance to Leishmania infection in humans. *Clin Exp Immunol.* 1992 Jan;87(1):58-64.
46. Maasho K, Akuffo HO. Cells from healthy non-exposed individuals produce cytokines to selected fractions of Leishmania promastigotes. *Scand J Immunol Suppl.* 1992;11:179-84.
47. Akuffo HO. Cytokine responses to parasite antigens: in vitro cytokine production to promastigotes of L. aethiopica by cells from non-Leishmania exposed donors may influence disease establishment. *Scand J Immunol Suppl.* 1992;11:161-6.
48. Mengistu G, Akuffo H, Fehniger TE. Immunoblot analysis of sera from Ethiopian cutaneous leishmaniasis by antibody class. *Scand J Immunol Suppl.* 1992;11:149-52.
49. Mengistu G, Akuffo HO, Yemane-Berhan T, Britton S, Fehniger TE. Serum antibody specificities to Leishmania aethiopica antigens in patients with localized and diffuse cutaneous leishmaniasis. *Parasite Immunol.* 1990 Sep;12(5):495-507.
50. Akuffo HO, Walford C, Nilsen R. The pathogenesis of Leishmania aethiopica infection in BALB/c mice. *Scand J Immunol.* 1990 Aug;32(2):103-10.

51. Akuffo H, Dietz M, Teklemariam S, Tadesse T, Amare G, Berhan TY. The use of itraconazole in the treatment of leishmaniasis caused by *Leishmania aethiopica*. *Trans R Soc Trop Med Hyg.* 1990 Jul-Aug;84(4):532-4.
52. Mengistu G, Kiessling R, Akuffo H. The value of a direct agglutination test in the diagnosis of cutaneous and visceral leishmaniasis in Ethiopia. *Trans R Soc Trop Med Hyg.* 1990 May-Jun;84(3):359-62.
53. Fehniger TE, Mengistu G, Gessesse A, Gabre-Mariam H, Akuffo H. Changes in the antigenic profile of *Leishmania* parasites following shifts in temperature. *Acta Trop.* 1990 May;47(4):227-36.
54. Akuffo H, Kaplan G, Kiessling R, Teklemariam S, Dietz M, McElrath J, Cohn ZA. Administration of recombinant interleukin-2 reduces the local parasite load of patients with disseminated cutaneous leishmaniasis. *J Infect Dis.* 1990 Apr;161(4):775-80.

### **1980 to 1989**

55. Akuffo HO, Fehniger TE, Britton S. Differential recognition of *Leishmania aethiopica* antigens by lymphocytes from patients with local and diffuse cutaneous leishmaniasis. Evidence for antigen-induced immune suppression. *J Immunol.* 1988 Oct 1;141(7):2461-6.
56. Akuffo H, Schurr E, Andersson G, Yamaneberhan T, Britton S. Responsiveness in diffuse versus local cutaneous leishmaniasis is due to parasite differences. *Scand J Immunol.* 1987 Dec;26(6):717-21.
57. Hussein S, Curtis J, Akuffo H, Turk JL. Dissociation between delayed-type hypersensitivity and resistance to pathogenic mycobacteria demonstrated by T-cell clones. *Infect Immun.* 1987 Mar;55(3):564-7.
58. Curtis J, Akuffo-Adu H, Turk JL. H-2-linked genes which modify resistance of C57BL/10 mice to subcutaneous infection with *Mycobacterium lepraemurium*. *Infect Immun.* 1984 Dec;46(3):635-8.
59. Adu HO, Curtis J, Turk JL. The resistance of C57BL/6 mice to subcutaneous infection with *Mycobacterium lepraemurium* is dependent on both T cells and other cells of bone marrow origin. *Cell Immunol.* 1983 Jun;78(2):249-56.
60. Adu HO, Curtis J, Turk JL. Role of the major histocompatibility complex in resistance and granuloma formation in response to *Mycobacterium lepraemurium* infection. *Infect Immun.* 1983 May;40(2):720-5.
61. Adu HO, Turk JL, Curtis J. The histopathology of tissues in "resistant" and "susceptible" strains of mice infected with a moderate dose of *Mycobacterium lepraemurium*. *J Pathol.* 1983 Mar;139(3):275-90.
62. Curtis J, Adu HO, Turk JL. H-2 linkage control of resistance to subcutaneous infection with *Mycobacterium lepraemurium*. *Infect Immun.* 1982 Nov;38(2):434-9.
63. Adu HO, Curtis J, Turk JL. Differences in cell-mediated immune responses of 'high-resistance' and 'low-resistance' mice to a nonpathogenic mycobacterium. *Scand J Immunol.* 1981 Nov;14(5):467-80.
64. Curtis J, Adu HO, Turk JL. A lack of correlation between antigen-specific cellular reactions and resistance to *Mycobacterium lepraemurium* infection in mice. *Immunology.* 1981 Jun;43(2):293-301.

### **REVIEWS**

1. Doherty M, Wallis RS, Zumla A; WHO-Tropical Disease Research/European Commission joint expert consultation group. Biomarkers for tuberculosis disease status and diagnosis. *Curr Opin Pulm Med.* 2009 May;15(3):181-7.
2. Nylén S, Akuffo H. Tracing immunity to human leishmaniasis. *Future Microbiol.* 2009 Mar;4:241-54

3. Elias D, Britton S, Kassu A, Akuffo H. Chronic helminth infections may negatively influence immunity against tuberculosis and other diseases of public health importance. *Expert Rev Anti Infect Ther.* 2007 Jun;5(3):475-84. Review
4. Elias D, Akuffo H, Britton S. Helminthes could influence the outcome of vaccines against TB in the tropics. *Parasite Immunol.* 2006 Oct;28(10):507-13. Review
5. Wolday D, Berhe N, Akuffo H, Britton S. Leishmania-HIV interaction: immunopathogenic mechanisms. *Parasitol Today.* 1999 May;15(5):182-7. Review.
6. Akuffo HO. Non-parasite-specific cytokine responses may influence disease outcome following infection. *Immunol Rev.* 1992 Jun;127:51-68. Review.