

Lawrence J. Bechtel, BS

Contact Information:

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Education:

Salem State University, Salem Massachusetts USA
B.S. Biology, 1987
Concentration: Biomedical Technology
Minor: Chemistry

Professional Experience:

Senior Research Assistant

Infectious Disease Unit, Massachusetts General Hospital, Harvard Medical School, Boston, MA. USA. 1987-1995

Assisted Primary Investigators in The Infectious Disease Unit. Work included generating data for Physician Researchers to assess viral load and anti-viral drug efficacy by evaluating HIV antiviral drug resistance in Peripheral Blood Mononuclear cell culture. A primary focus of the work involved determining patient viral load using a variety of techniques including Syncytia formation quantification in PBMC cell culture, HIV1 protein quantification using ELISA, as well as RT PCR to evaluate the presence of HIV virus and DNA PCR to evaluate pro-viral integration of HIV in infected host cells. My work also included, cloning, sequencing and other techniques and methods used to evaluate the presence of HIV1 and CMV DNA, RNA, protein in a variety of samples.

Research Assistant

The Jackson Laboratory, Bar Harbor, ME. USA. 1998-Present

Dr. Muriel Davisson Lab. Assisted PI in Molecular characterization of Ts65Dn, a mouse model for Downs Syndrome. Primary work included Radiation Hybrid (RH) panel mapping and physical mapping by human:mouse sequence comparison to determine evolutionary breakpoints within Ts65Dn mice. My work also included expression analysis of trisomic genes at mouse embryo and mouse brain tissue.

Dr. Juergen Naggert Lab. Assisted PI in assessing diabetes and obesity related phenotypes in Tally Ho/Jng mice, a mouse model for type II diabetes. Work also included evaluating phenotypes of congenic mice at several QTL's. Another project involved using Micro-array analysis of several tissues to evaluate genes contributing to onset of obesity in Tub/Tub; a mouse model for obesity.

Dr. Steve Murray Lab. CRE characterization resource. My work here involves characterizing JAX Cre Repository mice and novel Cre Driver mice in an effort to evaluate these lines for specific as well as previously undefined Cre recombination. Upon annotating these characterized mice at embryonic and adult time points, data is sent to JAX Mouse Genome Informatics (MGI) where it is published and made available to the scientific community.

Publications

- 1: [Phenotypic characterization of polygenic type 2 diabetes in TALLYHO/JngJ mice.](#) Kim JH1, Stewart TP, Soltani-Bejnood M, Wang L, Fortuna JM, Mostafa OA, Moustaid-Moussa N, Shoieb AM, McEntee MF, Wang Y, **Bechtel L**, Naggert JK. J Endocrinol. 2006 Nov;191(2):437-46.
- 2: [Defective carbohydrate metabolism in mice homozygous for the tubby mutation.](#) Yun Wang, Kevin Seburn, **Larry Bechtel**, Jurgen K Naggert
Article in Physiological Genomics 27(2):131-40 · November 2006
- 3: [Mouse models of Down syndrome: How useful can they be? Comparison of the gene content of human chromosome 21 with orthologous mouse genomic regions.](#) Katheleen Gardiner, Andrew Fortna, **Lawrence Bechtel**, Muriel T Davisson. Gene 318(1-2):137-47 November 2003
- 4: [Annotation of human chromosome 21 for relevance to Down syndrome: gene structure and expression analysis.](#) Gardiner K1, Slavov D, **Bechtel L**, Davisson M. Genomics. 2002 Jun;79(6):833-43.
- 5: [Evolutionary breakpoints on human chromosome 21.](#) Davisson MT, **Bechtel LJ**, Akeson EC, Fortna A, Slavov D, Gardiner K. Genomics. 2001 Nov;78(1-2):99-106. PMID: 11707078
- 6: [Ts65Dn -- localization of the translocation breakpoint and trisomic gene content in a mouse model for Down syndrome.](#) Akeson EC, Lambert JP, Narayanswami S, Gardiner K, **Bechtel LJ**, Davisson MT. Cytogenet Cell Genet. 2001;93(3-4):270-6. PMID: 11528125
- 7: [HIV-1 DNA in fibroblast cultures infected with urine from HIV-seropositive cytomegalovirus \(CMV\) excretors.](#) Margalith M, D'Aquila RT, Manion DJ, Basgoz N, **Bechtel LJ**, Smith BR, Kaplan JC, Hirsch MS. Arch Virol. 1995;140(5):927-35. PMID: 7605203
- 8: [Interactions between HIV-1 and cytomegalovirus in human osteosarcoma cells carrying both viruses.](#) Margalith M1, Medina DJ, Hsiung GD, Smith BR, D'Aquila RT, Kaplan JC, **Bechtel L**, Wang MZ, Skolnik PR, Hirsch MS. AIDS Res Hum Retroviruses. 1993 Jun;9(6):519-27.
- 9: [Comparison of spot-blot and microtitre plate methods for the detection of HIV-1 PCR products.](#) Conway B, **Bechtel LJ**, Adler KA, D'Aquila RT, Kaplan JC, Hirsch MS. Mol Cell Probes. 1992 Jun;6(3):245-9. PMID: 1406733

10: [Eosinophils as host cells for HIV-1.](#)

Conway B, Baskar P, **Bechtel LJ**, Kaplan JC, Hirsch MS, Schooley RT, Pincus SH. Arch Virol. 1992;127(1-4):373-7.

11: [Maximizing sensitivity and specificity of PCR by pre-amplification heating.](#)

D'Aquila RT, **Bechtel LJ**, Videler JA, Eron JJ, Gorczyca P, Kaplan JC. Nucleic Acids Res. 1991 Jul 11;19(13):3749.

12: [Detection of HIV-1 DNA in crude cell lysates of peripheral blood mononuclear cells by the polymerase chain reaction and nonradioactive oligonucleotide probes.](#)

Conway B, Adler KE, **Bechtel LJ**, Kaplan JC, Hirsch MS. J Acquir Immune Defic Syndr. 1990;3(11):1059-64. PMID: 2120419 [PubMed - indexed for MEDLINE]

13: [Absence of infectious HIV-1 in the urine of seropositive viremic subjects.](#) Skolnik PR,

Kosloff BR, **Bechtel LJ**, Huskins KR, Flynn T, Karthas N, McIntosh K, Hirsch MS. J Infect Dis. 1989 Dec;160(6):1056-60. PMID: 2511253 [PubMed - indexed for MEDLINE]

Other activities:

[Degradation of IRS1 leads to impaired glucose uptake in adipose tissue of the type 2 diabetes mouse model TALLYHO/Jng](#)

Yun Wang, Patsy M Nishina and Jürgen K Naggert
The Jackson Laboratory, 600 Main Street, Bar Harbor, Maine 04609, USA
Journal of Endocrinology (2006) 191, 437-446

[Pol mutations conferring zidovudine and didanosine resistance with different effects in vitro yield multiply resistant human immunodeficiency virus type 1 isolates in vivo.](#)

J J Eron, Y K Chow, A M Caliendo, J Videler, K M Devore, T P Cooley, H A Liebman, J C Kaplan, M S Hirsch, and R T D'Aquila. Harvard Medical School, Boston, Massachusetts 02129. Antimicrob Agents Chemother. 1993 July; 37(7): 1480–1487.

[Long-term culture and fine specificity of human cytotoxic T-lymphocyte clones reactive with human immunodeficiency virus type 1.](#)

Bruce D. Walker¹, Charles Flexner, Karen Birch-Limberger, Laura Fisher, Timothy J. Paradis, Anno Aldovini, Richard Young, Bernard Moss, and Robert Shooley. Infectious Disease unit, Massachusetts General Hospital and Harvard Medical School, Boston, MA 02114¹
Proc. Natl. Acad. Sci, USA Vol 86 pp.9514-9518, December 1989.