

CURRICULUM VITAE*

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BIRTHPLACE: Detroit, Michigan

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CITIZENSHIP: U.S. Citizen

EDUCATION: Amherst College, Amherst, Massachusetts - B.A., Magna Cum Laude - 1960
University of California, Berkeley, California - 1961-1962
Washington University School of Medicine, St. Louis, Missouri – M.D. - 1966

LICENSURE: Missouri, 1966
Colorado, 1977

ACADEMIC APPOINTMENTS:

1966-1967 Intern in Medicine, Parkland Memorial Hospital, Dallas, Texas
1967-1969 Staff Associate, National Institute of Arthritis, Metabolism and Digestive Diseases, Bethesda, Maryland
1969-1970 Senior Resident in Medicine, Barnes Hospital, St. Louis, Missouri
1970-1972 Fellow in Hematology/Oncology, Washington University School of Medicine, St. Louis, MO
1972-1975 Assistant Professor of Medicine, Washington University School of Medicine, St. Louis, MO
1975-1977 Associate Professor of Medicine, Washington University School of Medicine, St. Louis, MO
1977-Present Professor of Medicine, University of Colorado Health Sciences Center, Denver, Colorado
1977-1998 Director, Division of Hematology, University of Colorado Health Sciences Center, Denver
1980-1995 Professor of Biochemistry, University of Colorado Health Sciences Center, Denver
1992-Present Cleo Meador and George Ryland Scott Professor of Hematology Research, University of Colorado Health Sciences Center, Denver, Colorado
1998-2013 Co-Division Head, Division of Hematology, University of Colorado Health Sciences Center, Denver, Colorado

MAJOR SCIENTIFIC INTEREST: Cobalamin (vitamin B12), and folate metabolism and deficiency

OTHER ACTIVITIES AND HONORS:

- 1966 Richard S. Brookings Research Prize, Washington University School of Medicine
1974-1978 American Cancer Society Faculty Research Award
1975-1977 Member, Veterans Administration Hematology Study Section
1977 Chairman, Veterans Administration Hematology Study Section
1976-1979 Member, Editorial Board, *Blood*
1977 Secretary-Treasurer, National Blood Club
1979 President, Western Blood Club
1979-1982 Member, National Committee for Clinical Laboratory Standards (NCCLS) Task Force on Vitamin B12 Assay
1979-1984 Member, Educational Committee of the *Journal of Clinical Investigation*
1986 MERIT Award, National Institute of Diabetes and Digestive and Kidney Diseases, NIH
1990 SmithKline Beecham Laboratories Award of the Clinical Ligand Assay Society
1992 Vice-Chairman, FASEB Summer Research Conference on Folic Acid, Vitamin B12 and One Carbon Metabolism, Saxtons River, Vermont
1994 Chairman, FASEB Summer Research Conference on Folic Acid, Vitamin B12 and One Carbon Metabolism, Copper Mountain, Colorado
2016 Washington University Medical Center Alumni Association Alumni Achievement Award

PROFESSIONAL SOCIETY MEMBERSHIPS:

- Phi Beta Kappa
- Alpha Omega Alpha
- Sigma Xi
- Association of American Physicians
- American Clinical and Climatological Association
- American Society for Clinical Investigation
- American Society of Hematology
- American Society of Biological Chemists
- American Federation for Clinical Research
- Western Society for Clinical Research
- Western Association of Physicians

OTHER INFORMATION:

- Board Certification in Internal Medicine, 1974
- Board Certification in Hematology, 1976

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3. **Allen RH** and Majerus PW. Isolation of vitamin B12-binding proteins using affinity chromatography. I. Preparation and properties of vitamin B12-sepharose. *J Biol Chem* 247: 7695-7701, 1972. PMID: 3889728
4. **Allen RH** and Majerus PW. Isolation of vitamin B12-binding proteins using affinity chromatography. II. Purification and properties of a human granulocyte vitamin B12-binding protein. *J Biol Chem* 247: 7702-7708, 1972. PMID: 4508457
5. **Allen RH** and Majerus PW. Isolation of vitamin B12-binding proteins using affinity chromatography. III. Purification and properties of human plasma transcobalamin II. *J Biol Chem* 247: 7709-7717, 1972. PMID: 4636330
6. **Allen RH** and Mehlman CS. Isolation of gastric vitamin B12-binding proteins using affinity chromatography. I. Purification and properties of human intrinsic factor. *J Biol Chem* 248: 3660-3669, 1973. PMID: 4702881
7. **Allen RH** and Mehlman CS. Isolation of gastric vitamin B12-binding proteins using affinity chromatography. II. Purification and properties of hog intrinsic factor and hog nonintrinsic factor. *J Biol Chem* 248: 3670-3680, 1973. PMID: 4735713
8. Fjellstedt TA, **Allen RH**, Duncan BK, Jakoby WB. Enzymatic conjugation of epoxides with glutathione. *J Biol Chem* 248: 3702-3707, 1973. PMID: 4634012
9. Hooper DC, Alpers DH, Burger RL, Mehlman CS, **Allen RH**. Characterization of ileal B12-binding protein using homogeneous human and hog intrinsic factors. *J Clin Invest* 52: 3074-3083, 1973. PMID: 4201500
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12. Katz M, Mehlman CS, **Allen RH**. Isolation and characterization of an abnormal human intrinsic factor. *J Clin Invest* 53: 1274-1283, 1974. PMID: 4207620
13. Burger RL, Mehlman CS, **Allen RH**. Human plasma R-type vitamin B12-binding proteins. I. Isolation and characterization of transcobalamin I, transcobalamin III, and the normal granulocyte vitamin B12-binding protein. *J Biol Chem* 259: 7700-7706, 1975. PMID: 1176444
14. Burger RL, Schneider RJ, Mehlman CS, **Allen RH**. Human plasma R-type vitamin B12-binding proteins. II. The role of transcobalamin I, transcobalamin III, and the normal granulocyte vitamin B12-binding protein in the plasma transport of vitamin B12. *J Biol Chem* 250: 7707-7713, 1975. PMID: 1176445
15. Burger RL, Waxman S, Gilbert HS, Mehlman CS, **Allen RH**. Isolation and characterization of a novel vitamin B12-binding protein associated with hepatocellular carcinoma. *J Clin Invest* 56: 1262-1270, 1975. PMID: 171283
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17. Schneider RJ, Burger RL, Mehlman CS, **Allen RH**. The role and fate of rabbit and human transcobalamin II in the plasma transport of vitamin B12 in the rabbit. *J Clin Invest* 57: 27-38, 1976. PMID: 1245601
18. **Allen RH**. Vitamin B12-binding proteins in human plasma. *Prog Clin Biol Res* 5: 357-375, 1976. PMID: 787996
19. **Allen RH**. The plasma transport of vitamin B12. *Br J Haematol* 33: 161-171, 1976. PMID: 1268094
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22. Kolhouse JF and **Allen RH**. Recognition of two intracellular cobalamin-binding proteins and their identification as methylmalonyl-CoA mutase and methionine synthase. Proc Natl Acad Sci USA 74: 921-925, 1977. PMID: 15259
23. Kolhouse JF and **Allen RH**. Absorption, plasma transport and cellular retention of cobalamin analogues in the rabbit. Evidence for the existence of multiple mechanisms that prevent the absorption and tissue dissemination of naturally occurring cobalamin analogues. J Clin Invest 60: 1381-1392, 1977. PMID: 915005
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Patents Held: Quantitative Testing for Vitamin B12

Inventor: Robert H. Allen
Patent No.: 4,188,189
Date of Issue: February 12, 1980

Test for Pancreatic Exocrine Function

Inventor: Robert H. Allen
Patent No.: 4,279,886
Date of Issue: July 21, 1981

Immunoassay for Measurement of Reticulocytes, and Immunoreactive Reagents for Use Therein

Inventors: Robert H. Allen, Paul A. Seligman
Patent No.: 4,332,785
Date of Issue: June 1, 1982

Quantitative Testing for Vitamin B12

Inventor: Robert H. Allen
Patent No.: 4,351,822
Date of Issue: September 28, 1982

Method for Assaying Vitamin-Containing Compositions for Vitamin Analogues

Inventor: Robert H. Allen
Patent No.: 4,427,780
Date of Issue: January 24, 1984

Immunoassay for Measurement of Reticulocytes, and Immunoreactive Reagents for Use Therein

Inventors: Robert H. Allen, Paul A. Seligman
Patent No.: 4,447,547
Date of Issue: May 8, 1984

Preparation of Samples for Vitamin B12 and/or Folate Assay and Assay

Inventor: Robert H. Allen
Patent No.: 4,451,571
Date of Issue: May 29, 1984

Assay for Sulfhydryl Amino Acids and Methods for Detecting and Distinguishing Cobalamin and Folic Acid Deficiency

Inventors: Robert H. Allen, Sally P. Stabler, John Lindenbaum
Patent No.: 4,940,658
Date of Issue: July 10, 1990

Method for Screening and Distinguishing Between Cobalamin and Folic Acid Deficiency Based on Assay for Cystathionine and 2-Methylcitric Acid

Inventors: Robert H. Allen, Sally P. Stabler, John Lindenbaum
Patent No.: 5,374,560
Date of Issue: December 20, 1994

Assays for Sulfhydryl Amino Acids and Methylmalonic Acid and Their Application to
Diagnosis of Cobalamin Deficiency

Inventors: Robert H. Allen, Sally P. Stabler
Patent No.: 5,438,017
Date of Issue: August 1, 1995

Diagnostic Method for Cobalamin Deficiency

Inventors: Robert H. Allen, Sally P. Stabler, John Lindenbaum
Patent No.: 5,457,055
Date of Issue: October 10, 1995

Method for Treatment and Prevention of Deficiencies of Vitamins B12, Folic Acid and B₆

Inventors: Robert H. Allen and Sally P. Stabler
Patent No.: 5,563,126
Date of Issue: October 8, 1996

Method for Treatment and Prevention of Deficiencies of Vitamins B12, Folic Acid and B₆

Inventors: Robert H. Allen and Sally P. Stabler
Patent No.: 5,795,873
Date of Issue: August 18, 1998

Method for Treatment and Prevention of Deficiencies of Vitamins B12, Folic Acid and B₆

Inventors: Robert H. Allen and Sally P. Stabler
Patent No.: 6,207,651
Date of Issue: March 27, 2001

Method for Treatment, Preventing and Reduction of Elevated Serum Metabolite Levels

Inventors: Robert H. Allen and Sally P. Stabler
Patent No.: 6,297,224
Date of Issue: October 2, 2001

Compositions Treating, Preventing or Reducing Elevated Metabolic Levels

Inventors: Robert H. Allen and Sally P. Stabler
Patent No.: 6,528,496
Date of Issue: March 4, 2003