

STEVE KAGEN, M.D. HIGHLIGHTS

ACCOMPLISHMENTS

CNN Allergy Consultant (1995-2002)

Winner of the Environmental Protection Agency's 2005 Children's Environmental Health

Recognition Award for The Allergy Family Guide textbook and CD-ROM program

One of the first Wisconsin Allergy Specialists Certified in Diagnostic Laboratory Immunology

Voted by area physicians as one of the Best Doctors in America

Chairman of the Allergen Standardization Committee of the American Academy of Allergy, Asthma, and Immunology

Winner of the 2004 Public Outreach Award from the American Academy of Allergy, Asthma and Immunology for The Allergy Family© Guide, a 5th grade allergy and asthma education program.

The only Certified Diagnostic Allergy - Immunology Lab in Northeastern Wisconsin

ALLERGY RESEARCH

- * U.S. Patent for the discovery of a worldwide Dust Mite Allergen
- * Standardized Vaccines used in Allergen Immunotherapy
- * Developed a new Rapid Venom Immunotherapy technique for the treatment of Bee Sting Allergy
- * Discovered and Sequenced Insect Allergens - Asian Lady Beetle, midge (Lake Fly), and the caddisfly (River Fly)
- * First in the World to Clone and Express an allergenic protein in bacteria
- * The Only Allergy Clinic in America with Polymerized Ragweed and Grass Vaccines which were proven to be the safest allergy injection treatments
- * Discovered Food Allergens in Frog, Buckwheat, Eggplant, Almond, and Spices

- * Discovered Cross-Reactive Allergens between Food and Natural Rubber Latex Proteins
- * Proved that Helicobacter pylori can cause Hives
- * Discovered a possible cause of Crohn's Disease (Copepods)
- * Demonstrated that Mite Vaccines do not contain Prion Proteins
- * Daily Pollen and Mold Spore Monitoring of N.E. Wisconsin air since 1992.

CURRICULUM VITAE

STEVEN L. KAGEN, M.D.

**CITIZEN /
BIRTHPLACE
EDUCATION**

U.S.A. Neenah, WI

College: University of
Wisconsin
1972 B.S. Honors
Molecular Biology

Medical School: University of
Wisconsin
School of Medicine
Madison, WI 1972-
1976

Internship & Residency: Internal Medicine
Northwestern
University
School of Medicine
Chicago, IL 1976-
1979

Fellowship: Allergy/Immunology
Medical College of
Wis.
Milwaukee, WI
1979-1981

**BOARD
CERTIFICATION**

American Board of Internal Medicine
September 1979
American Board of Allergy & Immunology
October 1981
Diagnostic Laboratory Immunology
October 1988

**UNIVERSITY
AFFILIATIONS**

Assistant Clinical Professor
Division of Allergy & Clinical Immunology
Department of Medicine

Medical College of Wisconsin
Milwaukee, WI

**PRACTICE
LOCATIONS**

Appleton, Wisconsin 1981 - Present
Oshkosh, Wisconsin 1981 - Present
Green Bay, Wisconsin 1986 - Present
Fond du Lac, Wisconsin 1990 - Present
Port St. Lucie, Florida 1986 - 1993

**PROFESSIONAL
SOCIETIES**

American Academy of Allergy, Asthma &
Immunology
American College of Allergy, Asthma &
Immunology
Wisconsin Allergy Society
Wisconsin State Medical Society

**ACADEMY
COMMITTEES**

American Academy of Allergy, Asthma &
Immunology:
Insect Allergy Committee
Latex Allergy Committee
Aerobiology Committee
Allergen Standardization Committee,
Chairman

**BOARD OF
DIRECTORS**

Joint Council of Allergy, Asthma and
Immunology
1988-1992

**CREATIVE
PROJECTS**

Author and Project Director
“Helpful Hints” on Kleenex Packages.
(> 2 billion consumer encounters)

Author, Project Director
Allergy Relief Guide
A 34-page consumer education booklet
with a
distribution of > 50,000 booklets.

National Pollen Network® (NPN®)
A national pollen and mold information
service with distributions to television
and print media.

Aller-Rhythm® allergy test
Owner; a colorful graphic revealing
seasonal allergy symptoms risks for
affected patients.

Aeroallergen Animations
Computer animations of broadcast
ready North American pollens and
mold spores.

The Allergy Family® Guide
An interactive educational 5th grade

school program about allergies and asthma.

Aeroallergen PhotoLibrary™ of North America

Interactive CD and Website-based audio and slide

program focused on airborne allergens.

U.S. PATENT: DUST MITE

U.S. patent awarded to Steven L. Kagen, M.D. and R. Muthiah, PhD, for the discovery and sequencing of the major allergen of the dust mite (*L. destructor*). U.S. Patent No. 5,236,834, Allergenic Molecules from *Lepidoglyphus Destructor*. Worldwide patent issued in August 1993.

FOX CITIES CHILDREN'S MUSEUM

Creative developer of the Allergy Arcade™ in Appleton, Wisconsin - an interactive educational exhibit designed to teach children and parents about the world of allergy and asthma.

CNN ALLERGY CONSULTANT

The exclusive source of daily allergy information to CNN from 1995 to 2002, in collaboration with Board Certified Allergy Specialists throughout the United States as part of NPN, the National Pollen Network.

THE WEATHER CHANNEL

Dr. Kagen provided daily national pollen and mold graphics to The Weather Channel, educating the public about the importance of aeroallergens as causes of asthma, sinus headaches, and hay fever.

ALLERNET.COM

Creator and owner of Allernet.com® - a website designed to provide the general public with useful allergy and asthma information along with referral services to Certified allergy specialists throughout the United States at: www.allernet.com

DISTINCTIONS

In 1988, Dr. Kagen became one of the first physicians in Wisconsin to be Board Certified in Diagnostic Laboratory Immunology.

BEST DOCTOR IN AMERICA

Voted by Wisconsin physicians as one of the "Best Doctors in America"

AWARDS

Winner - 1996 Founder's Award
Fox Cities Children's Museum

AWARDS

Winner - 2004 Community Outreach Award from the American Academy of Allergy, Asthma and Immunology for The Allergy Family Guide® - a 5th grade allergy and asthma education program.

AWARDS Winner - Environmental Protection Agency's 2005 Children's Environmental Health Recognition Award - for The Allergy Family Guide, for "protecting children from environmental risks, fundamental to making the world a healthier place, now and for future generations."

AWARDS Winner – 2005 Abstract of Distinction Federation of Clinical Immunology Societies for "Superior safety of polymerized allergen vaccines: Zero systemic reactions during 55,000 injections of polymerized ragweed and grass vaccines in 500 allergy patients. Clin Immunol 2005; S1:55."

AUTHORSHIP: The Aeroallergen PhotoLibrary of North America.

Steve Kagen, M.D., Walter Lewis, PhD, and Estelle Levetin, PhD. 2004

Allergy InsideOut® Steve Kagen, M.D. 2004

The Allergy Family® Guide. Steve Kagen, M.D. 2004

PUBLICATIONS

Interleukins

1. Soluble mediators of cellular immunity: partial characterization of Blastogenic Factor. Honors Thesis, University of Wisconsin, 1972

Marijuana Asthma

2. Kagen SL, Fink JN, Sohnle P and Kurup VP. Marijuana smoking as a source of Aspergillus exposure. In Proceedings of the 37th Annual Meeting of the American Academy of Allergy, March 1981, San Francisco, CA, p. 63.

3. Kagen SL, Sohnle P, Kurup VP and Fink JN. Aspergillus: An inhalable contaminant of marijuana. New England Journal of Medicine. 1981;304:483-84.

Fabric Softener

4. Kagen SL, Fink JN, Schlueter DP, et al. Anti-Induced Asthma static agent as a cause of small airway disease. In Proceedings of the 37th Annual Meeting of the American Academy of Allergy, March, 1981, San Francisco, CA, P. 30.

Hypersensitivity

5. Kagen SL, Fink JN, Schlueter DP, Kurup VP, Pneumonitis and Fruchtman R. Streptomyces albus: A new cause of hypersensitivity pneumonitis. J Allergy Clin Immunol.

- 1981;68:295-99.
- Allergic Aspergillosis** 6. Kagen SL, Cohen SH and Kurup VP. Ketoconazole therapy of allergic bronchopulmonary aspergillosis. Presented at the International Congress of Allergology and Clinical Immunology. London, England, 1982.
- Diagnostic Allergy** 7. Cohen SH and Kagen SL. Cimetidine and Skin Testing allergy skin testing. *Annals of Int Med.* 1981;96:787.
- Fabric Softener Lung** 8. Kagen SL, Schlueter DP, Cohen SH. Induction of small airways disease by a fabric softener.
- Marijuana Asthma** 9. Kagen SL, Kurup VP, Sohnle PG, and Fink JN. Marijuana smoking and fungal sensitization, *J Allergy Clin Immunol.* 1983;71:389-93.
- Smoking & Asthma** 10. Kurup VP, Resnick A, Kagen SL, Cohen SH and Fink JN. Allergic fungi and actinomycetes in smoking materials and their health implications. *Mycopathologia.* 1983;82:61-4.
- AIDS** 11. Nunnink JC, Wiedmeyer J, Hank J, Kagen SL and Sondel PS. Characterization of a possible suppressive factor in AIDS. UCLA AIDS Symposium, Salt Lake City, Utah, 1983.
- Insect Allergy** 12. Kagen SL, Yunginger J, and Johnson R. Lake fly allergy: Incidence of chironomid sensitivity in an atopic population. In *Proceedings of the 40th Annual Meeting of the American Academy of Allergy & Immunology*, March, 1984, Chicago, IL.
13. Kagen SL. Inhalant insect allergy. In *Monograph on Insect Allergy*, 1986; pp 93-102. (Levine MI and Lockey RF eds). D. Lambert Associates, Pittsburgh, PA.
- Occupational Insect Allergy & Asthma** 14. Kagen SL, Yunginger J and Wynn SR. Occupational respiratory allergy due to caddisfly aeroallergens. *J Allergy Clin Immunol.* 1986;77:169
- Insect Allergen Immunotherapy** 15. Kagen SL, Yunginger J, Wynn SR and Swanson MC. Midge-specific IgE and IgG responses during lake fly desensitization: An open trial. *J Allergy Clin Immunol.* 1986;77:140.
16. Kagen SL. Inhalant allergy to arthropods: Insects, arachnids, and crustaceans. *Clin Rev Allergy.*1990; 8:99-125.

- Caddisfly Allergens** 17. Kagen SL, Koshte V, and Aalberse R. Cross-reactivity of caddisfly-specific IgE antibodies with arthropoda and mollusca. *Allergy Proceedings*. 1988;9:289.
- Cross-Reactivity** 18. Koshte VL, Kagen SL and Aalberse R. Cross-reactivity of IgE antibodies to caddisfly with arthropoda and mollusca. *J Allergy Clin Immunol*. 84:174-83, 1989.
- Cloning of Insect Allergens** 19. Kagen SL and Siebert P. Cloning of insect aeroallergens: midge hemoglobins. *Allergy Proceedings*. 1988;9:281.
- Rapid Desensitization to Venom** 20. Bernstein D, Mittman RJ, Kagen SL, Korbe BS and Bernstein IL. Safety and efficacy of rapid venom immunotherapy (RVIT) for treatment of Hymenoptera-sensitive patients. *J Allergy Clin Immunol*. 1989;83:227.
- Fire Ant Allergy** 21. Kagen SL and Muthiah R. Fire ant anaphylaxis: Allergen characterization and partial amino acid sequence of Sol i II and Sol i III. *Ann Allergy*. 1990;64:75.
- Guidelines for Diagnosis of Occupational Lung Disease** 22. Bush R and Kagen SL. Guidelines for the preparation and characterization of high molecular weight allergens used for the diagnosis of occupational lung disease. *J Allergy Clin Immunol*. 1989;84:814-19.
- Rapid Desensitization to Venom** 23. Bernstein D, Mittman RJ, Kagen SL, Korbee L, Enrione M and Berstein IL. Clinical and immunologic studies of rapid venom immunotherapy in Hymenoptera-sensitive patients. *J Allergy Clin Immunol*. 1989;84:951-59.
- Food Allergens: Buckwheat** 24. Muthiah R and Kagen SL. Food Allergens: Characterization of major buckwheat carbohydrate dependent allergens. *J Allergy Clin Immunol*. 1990;85:151.
- Insect Allergens: Hemoglobins** 25. Kagen SL and Muthiah R. Insect allergens: Characterization and partial sequencing of a caddisfly hemoglobin. *J Allergy Clin Immunol*. 1990;85:152.
- Allergy Vaccine Stability** 26. Muthiah R and Kagen SL. Allergens as enzymes: Degradation of cat and ragweed allergens by house dust mite allergen extract. *J Allergy Clin Immunol*. 1990;85:151.

- Allergy Vaccine Stability** 27. Kagen SL, Isaacson B and Muthiah R. Polymerized ragweed vaccine: Retention of all epitopes. *J Allergy Clin Immunol.* 1991;87:188.
- Allergy Vaccine Stability** 28. Knoll R, Kagen SL and Muthiah R. Allergens as enzymes: Failure of HSA to protect degradation of grass allergens by mold extracts. *J Allergy Clin Immunol.* 1991;87:188.
- Barn Allergy: Storage Mite Allergens** 29. Muthiah R, Miller M and Kagen SL. Barn allergy: Isolation and characterization of the major allergens of storage mites: *L. destructor*. *J Allergy Clin Immunol.* 1991;87:326.
- Insect Allergy** 30. Baur X, Liebers V, Mazur G, Becker WM, Kagen SL, Kawai K. Immunologic cross-reactivity of hemoglobins in the Diptera family Chironomidae. *Allergy* 1991;46:445051.
- Fire Ant Allergy** 31. Knoll R, Kagen S and Muthiah R. Non-specific reactivity of fire ant whole body extract in the diagnosis of fire ant allergy. *J Allergy Clin Immunol.* 1992;89:51.
- Immunization Screen** 32. Muthiah R, Kagen S, Hildeman D and Knoll R. New Immunization screen reveals under-immunization of patients attending allergy & asthma clinics. *J Allergy Clin Immunol.* 1992;89:490.
- Protective Levels to Fire Ant Venom** 33. Kagen S, Muthiah R, Hildeman D, Knoll R and Friedman S. Fire ant anaphylaxis: Initial determination of fire ant-specific IgG anti-toxin levels. *J Allergy Clin Immunol.* 1992;89:716.
- Allergen Immunotherapy** 34. Kagen SL. Other indications for administration of allergy immunotherapy: Insects, fire ants and therapeutic agents. *Immunology and Allergy Clinics of*

- North America. 1992;12:177-97.
- Rapid Venom Immunotherapy** 35. Bernstein JA, Kagen SL, Bernstein DI and Bernstein IL. An extended experience indicating that rapid venom immunotherapy (RVIT) is safe for treatment of Hymenoptera (Hym) anaphylaxis. *J Allergy Clin Immunol.* 1993;91:563.
- Polymerized Midge Allergen Immunotherapy** 36. Knoll R, Kagen SL, Muthiah R and Hildeman. Polymerized midge allergen immunotherapy (PMAIT): clinical reduction in early and late phase reactivity and prevention of rhinitis and asthma morbidity. *J Allergy Clin Immunol.* 1994;93:251.
- Polymerized Grass Allergen Immunotherapy** 37. Hildeman D, Muthiah R and Kagen SL. Successful polymerized grass allergen immunotherapy (PGAIT): failure of in vitro measurements to correlate with clinical outcomes. *J Allergy Clin Immunol.* 1994;93:251.
- Polymerized Ragweed Allergen Immunotherapy** 38. Hempel D, Muthiah R, Hildeman D and Kagen SL. Polymerized ragweed allergen immunotherapy (PRAIT): failure of anti-idiotypic antibody (AIA) to predict clinical outcomes. *J Allergy Clin Immunol.* 1994;93:251.
- Helicobacter Pylori** 39. Zondlo J, Muthiah R, Knoll R and Kagen SL. *Helicobacter pylori* (Hp): a new cause of urticaria (U) and exercise-induced anaphylaxis (EIA) ó identification of Hp allergens. *J Allergy Clin Immunol.* 1994;93:220.
- Allergen Extract Stability** 40. Kagen SL, Muthiah R and Knoll R. Allergens as enzymes: a two year study of aqueous allergen extract stability and the deleterious effect of mixing allergen

- extracts together. *J Allergy Clin Immunol.* 1994;93:253.
- Frog-induced Anaphylaxis** 41. Muthiah R, Kagen SL and Hempel D. Frog-induced anaphylaxis (ANA): isolation and characterization of the major frog allergen, which is cross-reactive with cod parvalbumin. *J Allergy Clin Immunol.* 1994;93:209.
- Rapid Venom Immunotherapy** 42. Bernstein JA, Kagen SL, Bernstein DI and Bernstein LB. Rapid venom immunotherapy is safe for routine use in the treatment of patients with Hymenoptera anaphylaxis. *Annals of Allergy Asthma Immunol.* 1994;73:423-8.
- Flaxseed-Induced Anaphylaxis** 43. Muthiah R, Louthain L, Knoll R and Kagen S. Flaxseed-induced anaphylaxis (ANA): another cross-reactive carbohydrate food allergen. *J Allergy Clin Immunol.* 1995;95:370.
- Helicobacter pylori** 44. Kagen S, Zondlo A, Zondlo J and Muthiah R. *Helicobacter pylori* and allergic disease: characterization of *Helicobacter* allergens. *J Allergy Clin Immunol.* 1995;95:255.
- Insect Allergy** 45. Kagen SL and Chapman M. Allergy to inhalants of arthropods: insects and arachnids. In *Monograph on Insect Allergy.* 1995;95:370. (Levine MI and Lockey RF eds). D. Lambert Associates, Pittsburgh, PA.
- Eggplant Anaphylaxis** 46. Muthiah R, Zondlo A, Zondlo J and Kagen S. Eggplant anaphylaxis: isolation of the major allergens and demonstration of cross-reactivity with other Solanaceae. *J Allergy Clin Immunol.* 1996;97:334.
- Aerobiology** 47. Kagen S, Muthiah R, Knoll R, Graphos G and DeStasio B. Aerobiology: Grass pollen forecasting

- models. J Allergy Clin Immunol. 1996;97:217.
- Mannose Binding Protein Deficiency** 48. Kagen S, Muthiah R and Slupianek J. Mannose binding protein deficiency is more frequent than IgA deficiency. J Allergy Clin Immunol. 1997;99:S396
- Allergy to Acacia in Synthroid** 49. Muthiah R, Kagen S, Zondlo A and Zondlo J. Hidden allergens in medications: Allergy to acacia in Synthroid tablets. J Allergy Clin Immunol. 1997;99:S492.
- Latex & Food Anaphylaxis** 50. Kagen SL and Muthiah R. Latex and Food induced Anaphylaxis: Oregano, Dill, Sage and Carrot Cross-React with Natural Rubber Latex. J Allergy Clin Immunol. 1998;101:S208.
- Chinchilla Allergy** 51. Muthiah R, Yablon B, Reddy, and Kagen S. Chinchilla Allergy: A new Cause of Animal Hypersensitivity. J Allergy Clin Immunol. 1999;103:93.
- Anaphylaxis to PPD** 52. Kagen S and Muthiah R. Anaphylaxis to PPD: Tuberculosis Skin Test Antigen Atopy. J Allergy Clin Immunol. 1999;103:149.
- Almonds and Latex Allergy** 53. Kagen SL and Muthiah R. Latex, Almond and Tobacco: Cross-Reactive Allergens. Annals Allergy, Asthma Immunol. 2000;84:146
- Latex and Ginger Cross-React** 54. Muthiah R, Peterson A and Kagen SL. Latex and Ginger Allergy. Annals Allergy, Asthma Immunol. 2000;84:168.
- Ladybug Allergy** 55. Kagen SL and Muthiah R. Ladybugs: A New Cause of Allergy. Annals Allergy, Asthma Immunol. 2000;84:146.
- Caddisfly Allergens** 56. Muthiah R, Ptachinski K, Ludden D, Kagen SL Insect Allergens: Isolation of Caddisfly Allergens. J Allergy Clin Immunol. 2001;107:S14.
- Kombu Anaphylaxis** 57. Zondlo J, Muthiah R, Kagen S and

- Kagen M. Kombu
Induced Anaphylaxis. *Annals Allergy Asthma Immunol.*
2002;88:118.
- Ragweed Pollen** 58. Muthiah R and Kagen S. Ragweed
Pollen in the
Spring Air. *Annals Allergy Asthma Immunol.*
2003;90:115.
- Leaf Mites** 59. Muthiah R, Arlian L and Kagen S. Leaf
Mites: Viable
Sources of Outdoor Aeroallergens. *Annals of
Allergy.*
2003;90:115.
- Ladybug Allergens** 60. Muthiah R and Kagen S. Ladybug
Allergy: Sequence
of a Major Asian Beetle Allergen. *Annals of
Allergy
Asthma Immunol.* 2003;90:100.
- Copepod Allergens** 61. Kagen S, Muthiah R and Breteler K.
Copepods: A
New Worldwide Source of Allergens. *Annals
of Allergy
Asthma Immunol.* 2003;90:96.
- Slim-Fast® Allergy** 62. Muthiah R and Kagen S. Anaphylaxis
induced by Slim-
Fast: The perils of weight lost in two patients.
*Annals
of Allergy Asthma Immunol.* 2004;92:P48.
- Poisonous Snake Venom** 63. Kagen S and Muthiah R. Poisonous
Snake Venom
Anaphylaxis vaccination: A case report of a
non-
physician directed experiment. *Annals of
Allergy
Asthma Immunol.* 2004;92:72.
- Midge Allergen
Anaphylaxis** 64. Gutin F, Kagen S, Muthiah R,
Bahrainwala A. Severe
protracted anaphylaxis to midge allergen in a
4 YO
boy. *Annals of Allergy Asthma Immunol.*
2004;92:P171.
- Allergen Extract
Stability** 65. Kagen S, Muthiah R, Holinbeck J. A
new and safer
method for preserving allergen stability in
human
vaccines. *J Allergy Clin Immunol.*
2004;113;S110P.
- Prion Proteins in
Vaccines** 66. Kagen S, O'Rourke K, Muthiah R, and
Arlian LG.
Prion proteins in vaccines intended for human

use -
mites, human serum albumin and mite colony
feeds:

No evidence of prion presence. *Annals of
Allergy*

Asthma Immunol. 2005; 94:175.

**“Breakfast Square”
Anaphylaxis**

67. Kagen S and Muthiah R. Anaphylaxis
associated with

eating a Breakfast Square product. In press.

**Partial Sequences of
Copepod-
Derived Protein
Antigens**

68. Muthiah R, Kagen S and Burton RS.
Copepods:

Worldwide sources of allergens - partial
sequences of

three unique proteins. *J Allergy Clin Immunol*
2005;

115:S91.

**Superior Safety of
Polymerized Allergen
Vaccines**

69. Kagen S, Zondlo J, Muthiah R and
Kagen M.

Superior safety of polymerized allergen
vaccines:

Zero systemic reactions during 55,000
injections of

polymerized ragweed and grass vaccines in
500

allergy patients. 2005. *Clin Immunol* 2005;
S1:55.