BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Sun-sang J. Sung	Associate Professor
eRA COMMONS USER NAME SJS5CNIH	

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
National Taiwan University,Taipei,Taiwan	B.S.	1971	Agricultural Chemistry
Michigan State University, E. Lansing, MI	Ph.D.	1977	Biochemistry
Rockefeller University, N.Y., NY	Postdoc Fellow	1978-80	Cell. Physiol.& Immunol.
Rockefeller University, N.Y., NY	Res. Associate	77-78;80-82	Cell. Physiol.& Immunol.

A. Positions and Honors

Professional Experience

1982-1985 Senior Assoc. Res. Scientist, Cancer Res. Program, Oklahoma Medical Research Foundation
1985-1989 Assistant Member, Immunology Program, Oklahoma Medical Research Foundation
1989-1994 Assistant Professor, Department of Radiation Oncology, MCV, Virginia Commonwealth University
1990-1994 Assistant Affiliate Professor, Department of Microbiology and Immunology, MCV, VCU
1994-2007 Associate Professor of Research in Internal Medicine, Independent Res. Faculty, U. of Virginia, Division of Rheumatology and Immunology, Department of Internal Medicine, UVA.
2007-Present Associate Professor of Research in Medicine, Independent Res. Faculty, U. of Virginia, Center for Immunity, Inflammation, and Regenerative Medicine, Department of Medicine, UVA

Other Experience and Professional Membership

1996; 1998; 2004; 2008 NIH Special Emphasis Panel
2004- American Thoracic Society;1989-2001; 2006-, The American Society of Immunologists; 1988-1996, American Society for Biochemistry and Molecular Biology; 1989-1995, The American Society for Cell Biology

Honors and Awards

1968; 1969 Distinguished Students Award, National Taiwan University
1968; 1969 Distinguished Overseas Chinese Students Award, Overseas Chinese Administr., Taiwan; R.O.C.
1978-1980 Fellow of the Damon Runyon-Walter Winchell Cancer Fund.

B. Selected peer-reviewed publications (in chronological order). (From 62 total peer-reviewed publications)

1. Sung, S-S.J., Esselman, W.J., and Sweeley, C.C. Structure of pentahexosylceramide from canine kidney and intestine. J. Biol. Chem. 248:6528-6533, 1973.
2. Sung, S.J. and Sweeley, C.C. Purification and characterization of α-N-acetylgalactosaminidase from porcine liver. J. Biol. Chem. 255:6589-6594, 1980.
3. Sung, S.J., Nelson, R.S., and Silverstein, S.C. Yeast mannans inhibit binding and phagocytosis of zymosan by mouse peritoneal macrophages. J. Cell Biol. 96:160-166, 1983.
4. Sung, S.J. and Silverstein, S.C. Inhibition of macrophage phagocytosis by methylation inhibitors: Lack of correlation of protein carboxymethylation and phospholipid methylation with phagocytosis. J. Biol. Chem. 260:546-554, 1985.
10. Sung, S.J., Nelson, R.S., and Silverstein, S.C. Mouse peritoneal macrophages placted on mannan- and HRP-coated substrates lose the ability to phagocytosis by their Fc receptors. J. Immunol. 134:3712-3717, 1985.
6. Sung, S.J., Young, J.D., Origlio, A.M., Heiple, J.M., and Silverstein, S.C. Extracellular ATP perturbs transmembrane ion fluxes, elevates Ca^{2+} and inhibits phagocytosis in mouse macrophages. J. Biol. Chem. 260:13442-13449, 1985.

7. Sung, S.J. Phagocytosis of mouse peritoneal macrophages plated on mAb-coated immune complex-substrates: Effects of different IgG subclasses on Fc receptor functions. J. Immunol. 135:1981-1986, 1985.
8. Sung, S-S.J., Bjorndahl, J.M., Wang, C.-Y., Kao, H.T., and Fu, S.M. Production of tumor necrosis factor/cachectin by human T cell lines and peripheral blood T lymphocytes stimulated by PMA and anti-CD3 antibody. J. Exp. Med. 167:937-953, 1988.
9. Sung, S-S.J., Jung, L.K.L., Walters, J.A., Chen, W., Wang, C.Y., and Fu, S.M. Production of tumor necrosis factor/cachectin by human B cell lines and tonsillar B lymphocytes. J. Exp. Med. 168:1539-1551, 1988.
10. Sung, S-S.J., and Walters, J.A. Identification and characterization of a hamster mAb anti-2.28 directed against a 70 kilodalton activation antigen on human monocytes. J. Immunol. 142:1909-1914, 1989.
11. Nakamura, S., Sung, S.J., Bjorndahl, J.M., and Fu, S.M. Human T cell activation. IV T cell activation and proliferation via an early activation antigen EA1. J. Exp. Med. 169:677-689, 1989.
12. Sung, S-S.J., Jung, L.K.L., Walters, J.A., Jeffes, III, E., Granger, G.A., and Fu, S.M. Production of lymphotoxin by human tonsillar B cells and B cell lines. J. Clin. Invest. 84:236-243, 1989.
13. Sung, S-S.J., Walters, J.A., Hudson, J., and Gimble, J.M.: Tumor necrosis factor-α mRNA accumulation in human myelomonocytic cell lines: Role of transcriptional regulation by DNA sequence motifs and mRNA stabilization. J. Immunol. 147:2047-2054, 1991.
14. Sung, S-S. J. and Walters, J.A. Increased cAMP levels enhance IL-1α and IL-1β mRNA expression and protein production in human myelomonocytic cell lines and monocytes. J. Clin. Invest. 88:1915-1923, 1991.
15. Sung, S-S.J., Walters, J.A., and Fu, S.M. Stimulation of tumor necrosis factor-α production in human monocytes by inhibitors of protein phosphatase 1 and 2A. J. Exp. Med. 176:897-901, 1992.
16. Sung, S-S.J. and Walters, J.A. Stimulation of interleukin-1α and interleukin-1β production in human monocytes by protein phosphatase 1 and 2A inhibitors. J. Biol. Chem. 268:5802-5809, 1993.
17. Sung, S.J., Guo, C.Y., and Weed, J.M. Monoclonal antibodies against human dendritic cell-like peripheral blood monocytes activated by GM-CSF plus interleukin 4. Cell. Immunol., 182:113-124, 1997.
18. Smith, A.M., Chapman, M.D., Taketomi, E.A.., Platts-Mills, T.A..E., and Sung, S.J. Recombinant allergens for immunotherapy: A Der p variant with reduced IgE reactivity retains T cell epitopes. J. Allergy Clin. Immunol., 101:423-425, 1998.
19. Sung, S.J., Taketomi, E.A., Smith, A.M., Platts-Mills, T.A.E., and Fu, S.M. Efficient stimulation of T cell responses to house dust mite allergen Der p 2 by granulocyte, macrophage-colony-stimulating factor plus interleukin 4-activated monocytes. Scand. J. Immunol., 49:96-105, 1999.
20. Woodfolk, J.A., Sung, S.J., Benjamin, D.C., and Platts-Mills, T.A.E. Distinct human T cell repertiores mediate immediate and delayed type hypersensitivity to the Trichophyton antigen, Tri r 2. J. Immunol., 165:4379-4387, 2000.
21. Sung, S.J., Rose, C.E., Jr., and Fu, S.M. Intratracheal priming with ovalbumin- and ovalbumin 323-339 peptide-loaded dendritic cells induces airway hyperresponsiveness and lung eosinophilia, goblet cell hyperplasia, and inflammation. J. Immunol., 166: 1261-1271, 2001.
22. Woodfolk, J.A., Sung, S.J., Ward, G.W., and Platts-Mills, T.A.E. Immunodominant T cell epitopes associated with distinct immune responses to the dermatophyte antigen Tri r 2: statistical approaches to mapping studies. Int. Arch. Allergy Immunol., 124: 90-92, 2001.
23. Kim, Y.-B., Sung, S.J., Kuziel, W.A., Feldman, S., Fu, S.M., and Rose, C.E., Jr. Enhanced airway Th2 response after allergen challenge in mice deficient in CCR2. J. Immunol., 166: 5183-5192, 2001.
24. Xiao, S., Jodo, S., Sung, S.J., Marshak-Rothstein, A., and Ju, S.-T. A novel signaling mechanism for soluble CD95 ligand. Synergy with anti-CD95 monoclonal antibodies for apoptosis and NFκB nuclear translocation. J. Biol. Chem., 277: 50907-50913, 2002.
25. Rose, C. E., Jr., Sung, S.J., and Fu, S. M. Significant involvement of CCL2 (MCP-1) in inflammatory disorders of the lung. Microcirculation 10:273-288, 2003.
26. Xiao, S., Sung, S.J., Fu, S.M., Ju, S.-T. Combining Fas mutation with interleukin-2 deficiency prevents colitis and lupus. Implicating interleukin-2 for auto-reactive T cell expansion and Fas ligand for colon epithelial cell death. J. Biol. Chem., 278: 52730-52738, 2003.
27. Reefer, J., Carneiro, R.M., Custis, N.J., Platts-Mills, T.A.E., Sung, S.J., Hammer, J., and Woodfolk, J.A. A role for IL-10-mediated HLV-DR7-restricted T cell-dependent events in development of the modified Th2 response to cat allergen. J. Immunol., 172: 2763-2772, 2004.
28. Xiao, S., Deshmukh, U.S., Jodo, S., Kooke, T., Sharma, R., Furosaki, A., Sung, S.J., and Ju, S.-T. Novel negative regulator of expression in Fas ligand (CD178) cytoplasmic tail: Evidence for translational regulation and against Fas ligand retention in secretory lysosomes. J. Immunol., 173: 5095-5102, 2004.

29. Pereira, E.A.L., Silva, D.A.O., Cunha-Junior, J.P., Almeida, K.C., Alves, R., Sung, S.J., and Taketomi, E.A. IgE, IgG1, and IgG4 antibody responses to Blomia tropicalis in atopic patients. Allergy 60: 401-406, 2005.
30. Sharma, R., Bagavant, H., Jarjour, W.N., Sung, S.J., Ju, S.-T. The role of Fas in the immune system biology of IL-2Rα knockout mice: Interplay among regulatory T cells, inflammation, hemopoiesis, and apoptosis. J. Immunol., 175: 1965-1973, 2005.
31. S. J. Sung, Fu, S.M., Rose, C.E., Jr., Gaskin, F., Ju, S.T., and Beaty, S.R. A Major Lung CD103 (α_E)-Beta$_7$ Integrin-Positive Epithelial Dendritic Cell Population Expressing Langerin and Tight Junction Proteins. J. Immunol., 176: 2161-2172, 2006.
32. Grinnan, D., Sung, S.-S., Dougherty, J. A., Knowles, A. R., Allen, M. B., Rose III, C. E., Nakano, H., Gunn, M. D., Fu, S. M., and Rose, C. E., Jr. Enhanced allergen-induced airway inflammation in paucity of lymph node T cell (plt) mutant mice. J. Allergy Clin. Immunol. 118, 1234-1241, 2006.
33. Sharma, R., Zheng, L., Deshmukh, U. S., Jarjour, W. N., Sung, S.-s. J., Fu, S. M., and Ju., S.-T. Cutting Edge: A Regulatory T Cell-Dependent Novel Function of CD25 (IL-2Rα) Controlling Memory CD8+ T Cell Homeostasis. J. Immunol. 178:1251-1255, 2007.
35. Beaty, S. R., Rose, C. E., Jr., and Sung, S.-s. J. Diverse and Potent Chemokine Production by Lung CD11bhigh Dendritic Cells in Homeostasis and in Allergic Lung Inflammation. J. Immunol. 178, 1882-1895, 2007.
36. Li Li, Huang, L, Sung, S.J., Lobo, P.I., Gregg, R.K., Engelhard, V.H., and Okusa, M.D. NKT Cell Activation Mediates Neutrophil Interferon Gamma Production and Renal Ischemia-Reperfusion Injury. J. Immunol. 178: 5899-5911. 2007.
37. Yoon, H.S., Legge, K.L. Sung, S.S., and Braciale, T.J.. $CD8^+$ T cells sequentially enter the draining lymph nodes and activate in response to pulmonary virus infection. J. Immunol. 179: 391-399, 2007.
38. de Queiros, M.G.J., Silva, D.A.O., Alves, R., Chiba, H.F., de Amaral, V.B.S., de Almeida, K.C., Ynoue, L.H., de Oliveira Resende, R., Soplete, M.C., Segindo, G.R.S., de Sousa Moreira, P.F., Sung, S.J., and Taketomi, E.A. Mite-specific immunotherapy using allergen and/or bacterial extracts in atopic patients in Brazil. *J. Investig. Allergol. Clin. Immunol*. 18: 84-92, 2008.

C. Research Support

Current Project

(a) Asthma Induction by Dendritic Cells and Th2 Cells
RO1 HL070065 Sun-sang J. Sung (PI) Agency: NIH/NHLBI
Period: 1/1/04 – 11/30/2007 (no cost extension to 11/30/2008)
Lung dendritic cell subsets, the role of chemokines CCR7/CCL21 in directing the migration of DC and T cells, and the mechanism for the egress of IFN-γ-producing CD8+ T cells from asthmatic lungs will be studied.
Role: P.I.

(b) Non-invasive cardio-pulmonary monitor for mice
R44HL073573 Martin C. Baruch (PI) Agency: NIH/NHLBI
Period: 7/31/2006 - 7/31/2008
This grant involves the construction of a saddle-type sensor that can monitor and clearly identify distinguishable physiological signals by measuring the mouse's chest movements. The device will be moved onto the mouse and a miniature wireless transmission system integrated into the sensor system. The real-time signal processing algorithms will be optimized and a computer-based graphical user interface (GUI) developed. In order to validate the performance of the sensing system, mice with inducible myotonic dystrophy or asthma-like disease will be studied.
Role: Co-Investigator

Completed Project

(a) CC Chemokines in Allergic Asthma
RO1 HL65344 C. Edward Rose, Jr. (PI) Agency: NIH
Period: 7/1/02-6/30/06

The grant aims at defining the mode of MCP-1 in the enhanced Th2 responses in CCR2-/- mutant mice, determining the kinetics of leukocyte trafficking in the lungs of the CCR2-/- mice, and identifying the relative role of absence of CCR2 on lymphocytes versus myeloid cells. The role of MCP-1 will be evaluated by administering neutralizing antibody to MCP-1 and by studying CCR2-/-/MCP-1-/- double knockout mice. Leukocyte trafficking will be evaluated by flow cytometry of leukocytes obtained from lung digests. The role of CCR2 deficiency will be determined by adoptive transfer of CCR2+/+ or CCR2-/- DO11.10 CD4+ T cells into CCR2+/+ or CCR2-/- nude mice. The overall purpose of the project is to determine the role of chemokines, especially MCP-1/CCL2, in airway inflammation and hyperreactivity in allergic asthma.
Role: Co-investigator