

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed for Form Page 2.
Follow the sample format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE		
Shively, John E.		Chairman/Immunology		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>				
INSTITUTION AND LOCATION		DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Illinois, Urbana		B.S.	1968	Chemistry
University of Illinois, Urbana		M.S.	1969	Biochemistry
University of Illinois, Urbana		Ph.D.	1975	Biochemistry

A. Positions and Honors**Positions and Employment**

- 1975-1976 Junior Research Scientist, Department of Immunology, City of Hope National Medical Center, Duarte, CA
- 1976-1977 Assistant Research Scientist, Division of Immunology, City of Hope National Medical Center, Duarte, CA
- 1977-1984 Associate Research Scientist, Division of Immunology, City of Hope National Medical Center, Duarte, CA
- 1977-1986 Director of Immunochemistry, Division of Immunology, City of Hope National Medical Center, Duarte, CA
- 1984-present Research Scientist, Division of Immunology, Beckman Research Institute of the City of Hope, Duarte, CA
- 1987-present Professor, Chairman, Division of Immunology, Beckman Research Institute of the City of Hope, Duarte, CA

B. Total Publications**Selected peer-reviewed publications (of 310 total)**

- Reeve, J. R., Jr., Eysselein, V. E., Rosenquist, G., Zeeh, J., Regner, U., Ho, F. J., Chew, P., Davis, M. T., Lee, T. D., Shively, J. E., Brazer, S. R., and Liddle, R. A. Evidence that CCK-58 has structure that influences its biological activity. *Am. J. Physiol.*, 270:G860-868 (1996).
- Kaplan, B.E., Hefta, L.J., Blake, R.C.II, Swiderek, K., and Shively, J.E. Solid phase synthesis and characterization of carcinoembryonic antigen (CEA) domains. *J. Peptide Res.*, 52:249-260 (1998).
- Huang, J., Simpson, J.F., Glackin, C. Riethorf, L., Wagener, C. and Shively, J.E. Expression of biliary glycoprotein (CD66a) in normal and malignant breast epithelial cells. *Anticancer Research*, 18:3203-3212 (1998).
- Wong, J.Y.C., Chu, D.Z.J., Yamauchi, D., Odom-Maryon, T.L., Williams, L.E., Liu, A., Esteban, J.M., Wu, A.M., Primus, F.J., Beatty, J.D., Shively, J.E. and Raubitschek, A.A. Dose escalation trial of indium-111-labeled anti-carcinoembryonic antigen chimeric monoclonal antibody (chimeric T84.66) in presurgical colorectal cancer patients. *J. Nucl Med.*, 39:2097-3014 (1998).
- Neumaier, M., Gaida, F.J., Lewis, M.R., Hefta, L.J., Shively, L.E., Raubitschek, A., Shively, J.E. A chimeric anti-CEA antibody with heavy interchain disulfide bonds deleted: molecular characterization and biodistribution in normal and tumor bearing mice. *Anticancer Res.*, 19:13-21 (1999).
- Huang, J., Hardy, J.D., Sun, T., and Shively, J.E. Essential role of biliary glycoprotein in morphogenesis of the human mammary epithelial cell line MCF10F. *J. Cell Science*, 112:4193-4205 (1999).

7. Jang, Y.H., Blanco, M., Dasgupta, S., Keire, D.A., Shively, J.E., and Goddard, W.A., III. Mechanism and energetics for complexation of 90-Y with 1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraacetic acid (DOTA), a model for cancer radioimmunotherapy. *J. Am. Chem. Soc.* 121: 6142-6151, 1999.
8. Wong JY, Wang J, Liu A, Odom-Maryon T, Shively JE, Raubitschek AA, Williams LE. Evaluating changes in stable chromosomal translocation frequency in patients receiving radioimmunotherapy. *Int J. Radiat. Oncol. Biol.Phys.* 46: 599-607 (2000).
9. Tsai, S.W., Sun, Y.Y., Sun, Williams, L.E., Raubitschek, A.A., Wu, A.M., and Shively, J.E. Biodistribution and radioimmunotherapy of human breast cancer xenografts with radiometal labeled DOTA conjugated anti-Her2/neu antibody 4D5. *Bionconj. Chem.* 11, 327-334 (2000).
10. Wu, A.M., Yzaki, P.J., Tsai, S.-W., nguyem, K., Anderson, A.-L., McCarthy, D.W., Welcj, M.J., Shively, J.E., Williams, L.E., Raubitschek, A.A., Wong, J.Y.C., Toyokuni, T.T., Phelps, M.E., and Gambhir, S.S. high resolution micro-PET imaging of carcinoembryonic antigen-positive xenografts by using a copper-64 labeled engineered antibody fragment. *Proc. Natl. Acad. Sci. USA.* 97: 8495-8500, 2000.
11. Yazaki, P.J., Wu, A.M., Tsai, S.-W., Williams, L.E., Ilke, D.N., Womg, J.Y.C., Shively, J.E., and raubitschek, A.A. Tumor targeting of radiometal labeled anti-CEA recombinant antibody T84.66 diabody and T84.66 minibody: comparison to radiolabeled fragments. *Bionconj. Chem.* 12: 220-228 (2001).
12. Schumann, D., Chen, C.J., Kaplan, B., and Shively, J.E. Carcinoembryonic antigen cell adhesion molecule 1 directly associates with cytoskeleton proteins actin and tropomyosin. *J. Biol. Chem.* 276: 47421-47433, 2001.
13. Li, L., Tsai, S.-W., Anderson, A.-L., Keire, D.A., Raubitschek., A.A., and Shively, J.E. Viny sulfone bifunctional derivatives of DOTA allow sulfhydryl or amino directed coupling to antibodies. Conjugates retain immunoreactivity and have similar biodistributions. *Bionconj. Chem.* 13, 110-115 (2002).
14. Graham, K. and Shively, J.E. Improved initial yields in C-terminal sequence analysis by thiohydantoin chemistry using purified diphenylphosphorylisothiocyanate: NMR evidence for a reaction intermediate in the coupling reaction. *Anal. Biochem.* 307: 202-211 (2002).
15. Reeve JR Jr, McVey DC, Bunnett NW, Solomon TE, Keire DA, Ho FJ, Davis MT, Lee TD, Shively JE, Vigna SR. Differences in receptor binding and stability to enzymatic digestion between CCK-8 and CCK-58. *Pancreas* 25:50-55 (2002).
16. Carmichael JA, Power BE, Garrett TP, Yazaki PJ, Shively JE, Raubischek AA, Wu AM, Hudson PJ. The crystal structure of an anti-CEA scFv diabody assembled from T84.66 scFvs in V(L)-to-V(H) orientation: implications for diabody flexibility. *J Mol Biol* 14: 341-51(2003).
17. Reeve JR, Keire DA, Coskun T, Green GM, Evans C, Ho FJ, Lee TD, Davis MT, Shively JE, Solomon TE. Synthesis of biologically active canine CCK-58. *Regul Pept* 113:71-77 (2003).
18. Keire DA, Vincent Wu S, Diehl DL, Chew P, Ho FJ, Davis MT, Lee TD, Shively JE, Walsh JH, Reeve JR. Rat progastrin processing yields peptides with altered potency at the CCK-B receptor. *Regul Pept* 113:115-124 (2003).
19. Kirshner, J., Chen, C.-J., Liu, P., Huang, J., and Shively, J.E. CEACAM1-4S, a cell-cell adhesion molecule, mediates apoptosis and reverts mammary carcinoma cells to a normal phenotype in a 3D culture. *Proc. Natl. Acad. Sci. USA.* 100: 521-526, 2003.

C. Research Support

Ongoing Research Support

P01 CA43904 – Shively (PI)

4/01/02 – 03/31/06

National Institute of Health

“Bioengineered Antibodies in Cancer Imaging and Therapy, Project 4”

The overall objective of this Program Project Grant is to define the role of radiolabeled, genetically engineered antibodies directed against anti-carcinoembryonic antigen (CEA) in a colon cancer model.

Role: PI

R01 CA084202 – Shively (PI)

07/01/00 – 06/30/05

National Institute of Health

“Role of BGP in Breast Epithelial Cell Polarization”

We plan to determine the molecular determinants of the BGP program that cause cell polarization. We will perform biochemical analysis of BGP cytoplasmic domain interactions and BGP ectodomain interactions. We will study the gene regulation of CEA and BGP in MCF10F and MCF7 cell lines

Role: PI

Completed Research Support

1R21EB00807-01 – Shively (PI)

9/15/02 – 8/31/03

National Institute of Health

“Optical Biosensor for the Early Detection of Cancer”

To develop a sensor system for the early detection and monitoring of breast cancer. The approach will use the simultaneous detection of three tumor specific antigens (CA15.3, CEA, Her2/neu) in a multielement sensor array.

Role: PI

BCRP-97, Idea – Shively (PI)

08/01/98 – 03/31/02

U.S. Army

Novel bifunctional chelates and metal ion complexes will be synthesized and conjugated to anti-CEA (carcinoembryonic antigen) and anti-HER2/neu antibodies and their Fab’ fragments for their improved targeting in a CEA and HER2/neu positive breast cancer animal model. “Metal Ion Complexes for Antibody Imaging and Therapy in Breast Cancer”

Role: PI

R01 GM46022 – Shively (PI)

4/01/96 - 3/31/01

National Institute of Health

“Carboxyl-Mediated Peptide Bond Cleavage”

The objective was the development of a chemical method of C-terminal sequencing.

Role: PI