

# CURRICULUM VITAE

Date: 8/23/2017

## A. PERSONAL INFORMATION

### A.1. Name and contact information

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**Seong-Ho Lee**

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### A.2. Education

<i>Year</i>	<i>Degree</i>	<i>Institution</i>
1991	B. S.	Korea University, Animal Science
1993	M. S.	Korea University, Animal Nutrition Thesis: Characteristics of nitrate reduction by rumen microorganisms and responses of host animal to prolonged nitrate intake
1999	Ph.D.	Korea University, Animal Nutrition & Physiology Dissertation: Effects of nitrate and vitamin A on thyroid metabolism in animals

### A.3. Professional experiences

<i>Year</i>	<i>Institution</i>
04/15/2000-06/30/2002	Post-doctorate, Department of Animal Science Colorado State University, Fort Collins, CO 80523
07/01/2002-01/31/2004	Post-doctorate, Department of Biochemistry University of Wisconsin, Madison, WI 53706
02/01/2004-06/30/2007	Post-doctorate, Department of Pathobiology University of Tennessee, Knoxville, TN 37996
07/01/2007-08/22/2011	Research Assistant Professor, Department of Pathobiology, University of Tennessee, Knoxville, TN 37996
08/23/2011-08/22/2017	Assistant Professor, Department of Nutrition and Food Science University of Maryland, College Park, MD 20742
08/23/2017-	Associate Professor, Department of Nutrition and Food Science University of Maryland, College Park, MD 20742

### A.4. Honors and Awards

<i>Year</i>	<i>Types of honors and awards</i>
1999	Korea Science and Engineering Foundation Post-doctoral Fellowship (Korea University)
2000	Korea Science and Engineering Foundation Post-doctoral Fellowship (Colorado State University)
2008	ASBMB Experimental Biology 2008 Travel Award. San Diego, CA
2009	Award of Excellence 2009, Comparative & Experimental Medicine Symposium at University of Tennessee
2010	Award of Excellence 2010, Comparative & Experimental Medicine and Public Health Research Symposium at University of Tennessee
2016	Research and Scholarship Awards (RASA) at University of Maryland

## B. RESEARCH

### B.1. Publications

#### B.1.1. Books or Book chapter

1. Baek SJ, Lee S-H. (2009) Encyclopaedic Handbook of Beer in Health and Disease Prevention. Epicatechin Gallate in Colon Cancer Cells, Elsevier Inc. p871-878.

#### B.1.2. Encyclopedia

1. Lee S-H. (2012) Invited/authored in Essay of "Encyclopedia of Cancer" (SpringerReference) Title: Aspirin, ISBN: 978-3-642-16482-8 (Print) 978-3-642-16483-5 (Online) (Affiliation: UMD) Webpage:[www.springerreference.com/docs/html/chapterdbid/172072.html](http://www.springerreference.com/docs/html/chapterdbid/172072.html)

#### B.1.3. Articles in refereed Journals

(\* , corresponding author; # , co-authors Dr. Lee mentored)

1. Lee S-H, Son Y-S. (1993) Characteristics of nitrate reduction by rumen microorganism and responses of host animal to prolonged nitrate intake. *Korean J. Dairy Sci.* 15(4):261-270.
2. Son Y-S, Yu B-W, Han H-C, Lee S-H, Lee C-J, Kim K-S. (1994) A field study on the ruminal pH of lactating cows according to feeding system in Korea. *Korean J. Dairy Sci.* 16(4):326-334.
3. Han H-C, Lee S-H, Son Y-S. (1994) *In situ* and *in vitro* evaluations of some feed proteins heat-treated by different processing methods. *Korean J. Anim. Nutr. Feed* 18(6):491-498.
4. Son Y-S, Kim S-H, Hong S-H, Lee S-H. (1998) Effect of feeding bentonite and granite porphyry on ruminal buffering activity and fermentation pattern. *Korean J. Dairy Sci.* 20(1):21-32.
5. Lee S-H, Hong SH, Son YS. (1999) Studies on the substances modulating nitrate and nitrite reduction by rumen microbes. *Korean J. Anim. Nutr. Feed.* 23(5):411-418.
6. Lee S-H, Kim KD, Ko KS, Son YS. (2000) Retinoic acid level and function of porcine thyroid cells *in vitro*. *Korean J. Anim. Sci. Technol.* 42(2):165-172.
7. Lee S-H, Engle TE, Hossner KL. (2002) Effects of dietary copper on the expression of lipogenic genes and metabolic hormones in steers. *J. Anim. Sci.* 80(7):1999-2005. PMID: 12162670
8. Lee S-H, Hossner KL. (2002) Coordinate regulation of ovine adipose tissue gene expression by propionate. *J. Anim. Sci.* 80(11):2840-2849. PMID: 12462251
9. Lee S-H, Hossner KL. (2002) Effects of bovine colostrum ultrafiltrates on growth and differentiation of 3T3-L1 preadipocytes. *Biotechnol Appl Biochem.* 36:205-212. PMID: 12452804
10. Rahman SM, Dobrzyn A, Dobrzyn P, Lee S-H, Miyazaki M, Ntambi JM. (2003) Stearoyl-CoA desaturase 1 deficiency elevates insulin signaling components and downregulates protein-tyrosine phosphatase 1B in muscle. *Proc. Natl. Acad. Sci. USA.* 100(19):11110-11115. PMID: 12960377
11. Miyazaki M, Dobrzyn A, Sampath H, Lee S-H, Man WC, Chu K, Peters JM, Gonzalez FJ, Ntambi JM. (2004) Reduced adiposity and liver steatosis by stearyl-CoA desaturase deficiency are independent of peroxisome proliferator-activated receptor- $\alpha$ . *J. Biol. Chem.* 279(33):35017-35024. PMID: 15180999
12. Lee S-H, Dobrzyn A, Dobrzyn P, Rahman SM, Miyazaki M, Ntambi JM. (2004) Lack of stearyl-CoA desaturase 1 upregulates basal thermogenesis, but causes hypothermia in cold environment. *J. Lipid Res.* 45(9):1674-1682. PMID: 15210843
13. Yamaguchi K, Lee S-H, Eling TE, Baek SJ. (2004) Identification of nonsteroidal anti-inflammatory drug-activated gene (NAG-1) as a novel downstream target of phosphatidylinositol 3-kinase/AKT/GSK-3 $\beta$  pathway. *J. Biol. Chem.* 279(48): 49617-49623. PMID: 15377673
14. Baek SJ, Kim J-S, Jackson FR, Eling TE, McEntee MF, Lee S-H. (2004) **Epicatechin gallate-induced expression of NAG-1 is associated with growth inhibition and apoptosis in colon cancer cells.** *Carcinogenesis* 25(12):2425-2432. PMID: 15308587
15. Rahman SM, Dobrzyn A, Lee S-H, Dobrzyn P, Miyazaki M, Ntambi JM. (2005) Stearoyl-CoA desaturase 1 deficiency increases insulin signaling and glycogen accumulation in brown adipose tissue. *Am. J. Physiol. Endocrinol. Metab.* 288:E381-387. PMID: 15494611
16. Dobrzyn A, Dobrzyn P, Lee S-H, Miyazaki M, Cohen P, Asilmaz E, Hardie DH, Friedman JM, Ntambi JM. (2005) Stearoyl-CoA desaturase 1 deficiency reduces ceramide synthesis by down-regulating serine palmitoyltransferase and increasing  $\beta$ -oxidation in skeletal muscle. *Am. J. Physiol. Endocrinol. Metab.* 288:E599-607. PMID: 15562249
17. Baek SJ, Kim J-S, Moore SM, Lee S-H, Martinez J, Eling TE. (2005) Cyclooxygenase inhibitors induce the expression of the tumor suppressor gene EGR1, which results in the up-regulation of NAG-1, an anti-tumorigenic protein. *Mol. Pharmacol.* 67(2):356-364. PMID: 15509713

18. **Lee S-H**, Kim J-S, Yamaguchi K, Eling TE, Baek SJ. (2005) Indole-3-carbinol and 3,3'-diindolylmethane induce expression of NAG-1 in a p53 independent manner. *Biochem. Biophys. Res. Commun.* 328:63-69. PMID: 15670751
19. Kim J-H, Yamaguchi K, **Lee S-H**, Tithof, PK, Sayler GS, Yoon J-H, Baek SJ. (2005) Evaluation of polycyclic aromatic hydrocarbons in the activation of early growth response-1 and peroxisome proliferator activated receptors. *Toxicol. Sci.* 85:585-593. PMID: 15716483
20. Yamaguchi K, **Lee S-H**, Kim J-S, Wimalasena J, Kitajima S, Baek SJ. (2006) Activating transcription factor 3 and early growth response-1 are the novel targets of LY294002 in a PI3K independent pathway. *Cancer Research.* 66:2376-2384. PMID: 16489044
21. **Lee S-H**, Yamaguchi K, Kim J-S, Eling TE, Safe S, Park Y, Baek SJ. (2006) Conjugated linoleic acid stimulates an anti-tumorigenic protein NAG-1 in an isomer specific manner. *Carcinogenesis* 27(5):972-981. PMID: 16286461
22. Yamaguchi K, **Lee S-H**, Eling TE, Baek SJ. (2006) A novel peroxisome proliferator-activated receptor  $\gamma$  ligand, MCC-555, induces apoptosis via posttranscriptional regulation of NAG-1 in colorectal cancer cells. *Molecular Cancer Therapeutics* 5(5):1352-1361. PMID: 16731769
23. Baek SJ, Okazaki R, **Lee S-H**, Martinez J, Kim J-S, Yamaguchi K, Mishina Y, Martin DW, Shoieb A, McEntee MF, Eling TE. (2006) Nonsteroidal anti-inflammatory drug activated gene-1 over-expression in transgenic mice suppresses intestinal neoplasia. *Gastroenterology* 131(5):1553-1560. PMID: 17101328
24. Lim YC<sup>S</sup>, **Lee S-H**<sup>S</sup>, Song MH, Yamaguchi K, Yoon J-H, Choi EC, Baek SJ. (2006) Growth inhibition and apoptosis by (-)-epicatechin gallate are mediated by cyclin D1 suppression in head and neck squamous carcinoma cells. *Eur J Cancer* 42:3260-3266. PMID: 17045795 <sup>S</sup>equally contributed
25. Cho K-N, Sukhthankar M, **Lee S-H**, Yoon J-H, Baek SJ. (2007) Green tea catechin epicatechin gallate induces tumor suppressor protein ATF3 via EGR-1 activation. *Eur J Cancer* 43:2404-2412. PMID: 17764926
26. **Lee S-H**, Cekanova M, Baek SJ. (2008) Multiple mechanisms are involved in 6-gingerol-induced cell cycle arrest and apoptosis in human colorectal cancer cells. *Molecular Carcinogenesis* 47:197-208. PMID: 18058799
27. Sukhthankar M, Yamaguchi K, **Lee S-H**, McEntee MF, Eling TE, Hara Y, Baek SJ. (2008) A green tea component suppresses post-translational expression of basic fibroblast growth factor in colorectal cancer. *Gastroenterology* 134:1972-1980. PMID: 18549879
28. **Lee S-H**, Bahn JH, Choi CK, Whitlock NC, English AE, Safe S, Baek SJ. (2008) ESE-1/EGR-1 pathway plays a role in tolfenamic acid-induced apoptosis in colorectal cancer cells. *Molecular Cancer Therapeutics* 7(12):3739-3750. PMID: 19074849
29. Iguchi G, Chrysovergis K, **Lee S-H**, Baek SJ, Langenbach R, Eling TE (2009) A reciprocal relationship exists between non-steroidal anti-inflammatory drug-activated gene-1 (NAG-1) and cyclooxygenase-2. *Cancer Letter* 282(2):152-158. PMID: 19375854
30. Cekanova M, **Lee S-H**, Donnell RL, Sukhthankar M, Eling TE, Fischer SM, Baek SJ. (2009) Nonsteroidal Anti-inflammatory Drug-Activated Gene-1 Expression Inhibits Urethane-Induced Pulmonary Tumorigenesis in Transgenic Mice. *Cancer Prevention Research* 2(5):450-458. PMID: 19401523
31. Choi CK, Sukhthankar M, Kim C-H, **Lee S-H**, English A, Kihm KD, Baek SJ. (2010) Cell adhesion property affected by cyclooxygenase and lipoxigenase: Opto-electric approach. *Biochem. Biophys. Res. Commun.* 391:1385-1389. PMID: 20026301
32. **Lee S-H**, Krisanapun C, Baek SJ. (2010) NSAID-activated gene-1 as a molecular target for capsaicin-induced apoptosis through a novel molecular mechanism involving GSK3 $\beta$ , C/EBP $\beta$ , and ATF3. *Carcinogenesis* 31(4):719-728. PMID: 20110283
33. Cekanova M, **Lee S-H**, McEntee MF, Baek SJ. (2010) MCC-555-induced NAG-1 expression is mediated in part by KLF4. *Eur. J. Pharmacol.* 637: 30–37. PMID: 20385121
34. **Lee S-H**, Bahn JH, Whitlock NC, Baek SJ. (2010) Activating transcription factor 2 (ATF2) controls tolfenamic acid-induced ATF3 expression via MAP kinase pathways. *Oncogene* 29: 5182–5192. PMID: 20581861
35. Zhong Y, Krisanapun C, **Lee S-H**, Nualsanit T, Sams C, Peungvicha P, Baek SJ. (2010) Molecular targets of apigenin in colorectal cancer cells: Involvement of p21, NAG-1 and p53. *Eur J Cancer.* 46:3365-3374. PMID: 20709524
36. Kim C-H, Bahn JH, **Lee S-H**, Kim G-Y, Jun S, Lee K, Baek SJ (2010) Induction of cell growth arrest

- by atmospheric non-thermal plasma in colorectal cancer cells. *Journal of Biotechnology* 150:530–538. PMID: 20959125
37. Whitlock NC, Bahn JH, **Lee S-H**, Eling TE, Baek SJ (2011) Resveratrol-induced apoptosis is mediated by early growth response-1, krüppel-like factor 4, and activating transcription factor 3. *Cancer Prevention Research* 4:116–127. PMID:21205742
  38. Krisanapun C, **Lee S-H**, Peungvicha P, Temsiririrkkul R, Baek SJ. (2011) Antidiabetic activities of abutilon indicum (L.) sweet are mediated by enhancement of adipocyte differentiation and activation of the GLUT1 promoter. *Evidence-based Complementary and Alternative Medicine*. 2011:167684. PMID:21603234
  39. Margraves C, Kihm K, Yoon SY, Choi CK, **Lee S-H**, Liggett J, Baek SJ. (2011) Simultaneous measurements of cytoplasmic viscosity and intracellular vesicle sizes for live human brain cancer cells. *Biotechnology & bioengineering* 108: 2504–2508. PDIM:21520025
  40. **Lee S-H\***, Richardson RL, Dashwood RH, Baek SJ. (2012) Capsaicin represses transcriptional activity of  $\beta$ -catenin in human colorectal cancer cells. *Journal of Nutritional Biochemistry* 23:646-655. PMID:21764279
  41. Nualsanit T, Rojanapanthu P, Gritsanapan W, **Lee S-H**, Lawson D and Baek SJ. (2012) Damnacanthal, a *Noni* component, exhibits anti-tumorigenic activity in human colorectal cancer cells. *Journal of Nutritional Biochemistry* 23:915-923 PMID:21852088
  42. Kang SU, Shin YS, Hwang HS, Baek SJ, **Lee S-H**, Kim C-H. (2012) Tolfenamic acid induces apoptosis and growth inhibition in head and neck cancer: Involvement of NAG-1 expression. *PLoS ONE* 2012;7(4):e34988. PMID:22536345
  43. **Lee S-H**, Min KW, Zhang X, Baek SJ. (2013) 3,3'-diindolylmethane induces activating transcription factor 3 (ATF3) via ATF4 in human colorectal cancer cells. *Journal of Nutritional Biochemistry* 24:664-671 PMID:22819556
  44. Kim J, Park, Y, **Lee S-H**, Park Y. (2013) trans-10,cis-12 conjugated linoleic acid promotes bone formation by inhibiting adipogenesis by peroxisome proliferator activated receptor- $\gamma$  dependent mechanisms and by directly enhancing osteoblastogenesis from bone marrow mesenchymal stem cells. *Journal of Nutritional Biochemistry* 24:672–679. PMID:22832076
  45. Kang SU, Lee B-S, **Lee S-H**, Baek SJ, Shin YS, Kim C-H. (2013) Expression of NSAID activated gene-1 by EGCG in head and neck cancer: Involvement of ATM-dependent p53 expression. *Journal of Nutritional Biochemistry* 24:986-999 PMID:23017582
  46. Jeong JB<sup>#</sup>, **Lee S-H\***. (2013) Protocatechualdehyde possesses anti-cancer activity through downregulating cyclin D1 and HDAC2 in human colorectal cancer cells. *Biochem. Biophys. Res. Commun* 430:381-386. PMID:23159608
  47. Jeong JB<sup>#</sup>, Shin YK<sup>#</sup>, **Lee S-H\***. (2013) Anti-inflammatory activity of patchouli alcohol in RAW264.7 and HT-29 cells. *Food and Chemical Toxicology* 55:229-233 PMID:23348408
  48. Jeong JB<sup>#</sup>, Choi J<sup>#</sup>, Lou Z<sup>#</sup>, Jiang X<sup>#</sup>, **Lee S-H\***. (2013) Patchouli alcohol, essential oil of Pogostemon cablin, exhibits anti-tumorigenic activity in human colorectal cancer cells. *International Immunopharmacology* 16:184-190 PMID:23602914
  49. Jeong JB<sup>#</sup>, Choi J<sup>#</sup>, Baek SJ, **Lee S-H\***. (2013) Reactive oxygen species mediate tolfenamic acid-induced apoptosis in human colorectal cancer cells. *Archives of Biochemistry and Biophysics* 537:168-175. PMID:23896514
  50. Jeong JB<sup>#</sup>, Yang X<sup>#</sup>, Clark R<sup>#</sup>, Choi J<sup>#</sup>, Baek SJ, **Lee S-H\***. (2013) A mechanistic study of the proapoptotic effect of tolfenamic acid; involvement of NF- $\kappa$ B activation. *Carcinogenesis* 34:2350-2360. PMID:23784084
  51. Zhang X, **Lee S-H**, Min K-W, McEntee MF, Jeong JB<sup>#</sup>, Li Q, Baek SJ. (2013) The involvement of endoplasmic reticulum stress in the suppression of colorectal tumorigenesis by tolfenamic acid. *Cancer Prevention Research* 6(12):1337-1347. PMID:24104354
  52. Chrysovergis K, Wang X, Kosak J, **Lee S-H**, Kim JS, Foley JF, Travlos G, Singh S, Baek SJ, Eling TE. (2014) NAG-1/GDF15 prevents obesity by increasing thermogenesis, lipolysis and oxidative metabolism. *International Journal of Obesity* 38(12):1555-1564. PMID:24531647
  53. Chang JW, Kang SU, Choi JW, Shin YS, Baek SJ, **Lee S-H**, Kim C-H. (2014) Tolfenamic acid induces apoptosis and growth inhibition in anaplastic thyroid cancer: Involvement of nonsteroidal anti-inflammatory drug-activated gene-1 expression and intracellular reactive oxygen species generation. *Free Radical Biology and Medicine* 67:115-130. PMID:24216474

54. Choi J<sup>#</sup>, Jiang X<sup>#</sup>, Jeong JB<sup>#</sup>, **Lee S-H\***. (2014) Anti-cancer activity of protocatechualdehyde in human breast cancer cells. *Journal of Medicinal Food* 17(8):842-848 PMID:24712725
55. Shao HJ<sup>#</sup>, Lou Z<sup>#</sup>, Jeong JB, Kim K-J<sup>#</sup>, Lee J<sup>#</sup>, **Lee S-H\***. (2015) Tolfenamic acid suppresses inflammatory stimuli-mediated activation of NF- $\kappa$ B signaling. *Biomolecules&Therapeutics* 23(1):39-44. PMID:25593642
56. Kim K-J<sup>#</sup>, Lee J<sup>#</sup>, Park Y, **Lee S-H\***. (2015) ATF3 mediates anti-cancer activity of trans-10, cis-12-conjugated linoleic acid in human colon cancer cells. *Biomolecules&Therapeutics* 23(2):134-140. PMID: 25767681
57. Shao HJ<sup>#</sup>, Jeong JB<sup>#</sup>, Kim K-J<sup>#</sup>, **Lee S-H\***. (2015) Anti-inflammatory activity of mushroom-derived hispidin through blocking of NF- $\kappa$ B activation. *Journal of the Science of Food and Agriculture* 95(12):2482-2486. PMID:25355452
58. Clark R<sup>#</sup>, Lee J<sup>#</sup>, **Lee S-H\***. (2015) Synergistic anti-cancer activity of capsaicin and 3,3'-diindolylmethane in human colorectal cancer. *Journal of Agricultural and Food Chemistry* 63(17):4297-4304. PMID:25876645
59. Jeong JB<sup>#</sup>, Lee J<sup>#</sup>, **Lee S-H\***. (2015) TCF4 is a molecular target of resveratrol in the prevention of colorectal cancer. *International Journal of Molecular Sciences* 16:10411-10425. PMID:25961950
60. Liu J, Yang P, Shi H, Sun X, **Lee S-H**, Yu L. (2015) A novel Gynostemma pentaphyllum saponin and its adipogenesis inhibitory effect through modulating Wnt/ $\beta$ -catenin pathway and cell cycle in mitotic clonal expansion. *Journal of Functional Foods* 17: 552-562. DOI:10.1016/j.jff.2015.06.014
61. Wong J, Kim Y, Park Y, **Lee S-H**, Baek SJ, Park Y (2015) Isomer specificity of conjugated linoleic acid on suppression of osteosarcomas. *J. Nature Sci.* 1: e67.
62. Jiang X<sup>#</sup>, Kim K-J<sup>#</sup>, Ha T<sup>#</sup>, **Lee S-H\***. (2016) Potential dual role of activating transcription factor 3 in colorectal cancer. *Anticancer Research* 36(2):509-516. PMID:26851004
63. Clark R<sup>#</sup>, **Lee S-H\***. (2016) Anticancer properties of capsaicin against human cancer. *Anticancer Research* 36(3):837-844. (Review) PMID:26976969
64. Min K-W, **Lee S-H**, Baek SJ. (2016) Moonlighting proteins in cancer. *Cancer Letters* 370:108-116. (Review). PMID:26499805
65. Ha T<sup>#</sup>, Lou Z<sup>#</sup>, Baek SJ, **Lee S-H\***. (2016) Tolfenamic acid downregulates  $\beta$ -catenin in colon cancer. *International Immunopharmacology* 35:287-293. PMID:27089389
66. Yang X<sup>#</sup>, **Lee S-H\***. (2016) Identification of ESE1 as a  $\beta$ -catenin binding protein. *Anticancer Research* 36(6):2697-2704. PMID:27272778
67. Silva G, Marins M, Fachin AL, **Lee S-H**, Baek SJ. (2016) Anti-cancer activity of trans-chalcone in osteosarcoma: Involvement of Sp1 and p53. *Molecular Carcinogenesis* 55(10):1438-1448. PMID:26294168
68. Shin YS, Kang SU, Park JK, Kim YE, Kim YS, Baek SJ, **Lee S-H**, Kim C-H. (2016) Anti-cancer effect of epigallocatechin-3-gallate (EGCG) in head and neck cancer through repression of transactivation and enhanced degradation of  $\beta$ -catenin. *Phytomedicine* 23:1344-1355. PMID:27765354
69. **Lee S-H\***, Clark R<sup>#</sup>. (2016) Anti-tumorigenic effects of capsaicin in colon cancer. *Journal of Food Chemistry and Nanotechnology* 2(4):162-167. DOI:10.17756/jfcn.2016-025
70. Lee J<sup>#</sup>, Imm J-Y, **Lee S-H\***. (2017)  $\beta$ -catenin mediates anti-adipogenic and anti-cancer effects of arctigenin in preadipocytes and breast cancer cells. *Journal of Agricultural and Food Chemistry* 65(12):2513-2520. PMID:28279068
71. Lee J<sup>#</sup>, Yue Y, Park Y, **Lee S-H\***. (2017) 3,3'-diindolylmethane suppresses adipogenesis via AMPK $\alpha$ -dependent mechanism in 3T3-L1 adipocytes and *Caenorhabditis elegans*. *Journal of Medicinal Food* 20(7):646-652. PMID:28459610
72. Feldman D<sup>#</sup>, Leahy E<sup>#</sup>, **Lee S-H\***. (2017) Chemopreventive properties of tolfenamic acid: a mechanistic review. *Current Medicinal Chemistry* (In press) (Review). PMID:28413959

#### B.1.4. Presentation and Abstracts

1. Han H-C, **Lee S-H**, Son Y-S. (1994) Effect of supplementation of Zn and Mn on nitrogen digestibility and retention in rumen. Korean Federation of the Societies in Animal Sciences. Proceedings of '94 Annual Meeting. Page 168 Abstract PB-13.
2. **Lee S-H**, Han H-C, Son Y-S. (1994) Effect of yeast culture on nitrate reduction and oxidation of blood hemoglobin in rumen. Korean Federation of the Societies in Animal Sciences. Proceedings of '94 Annual Meeting. Page 160 Abstract D9416.

3. **Lee S-H**, Kim S-H, Son Y-S. (1995) Effect of bentonite and granite porphyry on ruminal buffering activity and fermentation pattern ruminant animal. Proceedings of '95 Korea-China Animal Nutrition Conference. p29.
4. Son Y-S, **Lee S-H**. (1995) Investigation of TMR feeding effect on dairy cows. Proceedings of 1995 Korean Society of Dairy Science. p37.
5. **Lee S-H**, Hong S-H, Kim K-D, Son Y-S. (1997) Effect of nitrate on thyroid functions of animal. Korean Federation of the Societies in Animal Sciences. Proceedings of the 7<sup>th</sup> Annual Congress. Page 186 Abstract E9716.
6. Hong S-H, **Lee S-H**, Son Y-S. (1998) Effect of feeding bentonite and granite porphyry on the ruminal buffering activity and fermentation pattern. Proceedings of 8<sup>th</sup> World Conference on Animal Production. Vol I, p510-511. ISBN: 89-950054-8-393520.
7. **Lee S-H**, Kim K-D, Son Y-S. (1998) A study on antithyroid effects of nitrate in rat thyroid cells. Proceedings of 8<sup>th</sup> World Conference on Animal Production. Proceedings Vol II, p428-429. ISBN:89-950054-9-193520.
8. Yamaguchi K, **Lee S-H**, Eling TE, Baek SJ. (2005) Phosphatidylinositol 3-kinase/AKT/glycogen synthase kinase-3b pathway downregulates anti-tumorigenic protein NAG-1 in human colorectal cancer cells. AACR Annual Meeting Proceedings 2005, 65:291.
9. **Lee S-H**, Yamaguchi K, Kim J-S, Eling TE, Park Y, Baek SJ. (2005) Conjugated linoleic acid stimulates an anti-tumorigenic protein NAG-1 in an isomer specific manner. AACR Annual Meeting Proceedings 2005, 65(9 Suppl):3470.
10. Park Y, **Lee S-H**, Storkson JM, Liu W, Pariza MW. (2005) Conjugated Linoleic and Conjugated nonadecadienoic Acids (CLA & CNA) inhibit adipocytic differentiation of mouse bone marrow stem cells. Experimental Biology 2005. FASEB J. 19:A58.
11. Yamaguchi K, **Lee S-H**, Kim J-S, Wimalasena J, Kitajima S, Baek SJ. (2006) Involvement of activating transcription factor 3 and early growth response-1 in LY294002-induced apoptosis in human colorectal cancer cells. AACR Annual Meeting Proceedings 2006, 66(8Suppl):1374.
12. **Lee S-H**, Kim J-S, Yamaguchi K, Eling TE, Baek SJ. (2006) 3-3'-diindolylmethane, a major acid condensation product of indole-3-carbinol, induce expression of NAG-1 and ATF3 in colorectal cancer cells. AACR Annual Meeting Proceedings 2006, 66(8 Suppl):5589.
13. Kim J-S, **Lee S-H**, Baek SJ, Seo E-W, Eling TE. (2007) Caffeic acid phenethyl ester up-regulates non-steroidal anti-inflammatory drug activated gene via activating transcription factor 3. AACR Annual Meeting Proceedings 2007, 67(9 Suppl):6.
14. Yamaguchi K, **Lee S-H**, Eling TE, Baek SJ. (2007) AU-rich sequences in the 3'-untranslated region of *NAG-1* determine the RNA stability and PPAR $\gamma$  ligand MCC-555-induced *NAG-1* expression. AACR Annual Meeting Proceedings 2007, 67(9 Suppl):5594.
15. **Lee S-H**, Cekanova M, Baek SJ. (2007) 6-gingerol induces cell cycle arrest and apoptosis through multiple mechanisms in human colorectal cancer cells. AACR Annual Meeting Proceedings 2007, 67(9 Suppl):4971.
16. Margraves CH, Choi CK, Kihm KD, English A, **Lee S-H**, Cekanova M, Baek SJ. (2007) Quantitative imaging of nanoparticles and intracellular vesicle trafficking using total internal reflection fluorescent microscopy (TIRFM). Proceedings of the ASME 2007 Summer Bioengineering Conference (SBC2007-176682). p1-2.
17. **Lee S-H**, Whitlock NC, Choi CK, English AE, Safe SH, Baek SJ. (2008) Tolfenamic Acid Increases EGR-1 Expression through a PKC/ERK Dependent Pathway in Human Colorectal Cancer Cells. Experimental Biology 2008, FASEB J. 22(1):649.3.
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21. Park Y, Park Y, Terk M, Kim BH, **Lee S-H**. (2009) Influence of conjugated linoleic acid (CLA) on differentiation of murine mesenchymal bone marrow stem cells. Abstract for the Food Science and Technology symposium at the US-Korea Conference on Science, Technology, and Entrepreneurship.
22. Sun X, Baek SJ, **Lee S-H**, Zemel M. (2009) NAG-1 promotes a lean phenotype by stimulating mitochondrial biogenesis and fatty acid oxidation. The Obesity Society. The 27<sup>th</sup> Annual Scientific Meeting. Page 57; Abstract 439P.
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25. **Lee S-H**, Richardson RL, Baek SJ. (2011) Capsaicin represses transcriptional activity of  $\beta$ -catenin in human colorectal cancer cells. *AACR Annual Meeting Proceedings 2011*, 71(8 Suppl):4623.
26. **Lee S-H**, Bahn JH, Whitlock NC, Baek SJ. (2011) Activating transcription factor 2 (ATF2) controls tolfenamic acid-induced ATF3 expression via MAP kinase pathways. *AACR Annual Meeting Proceedings 2011*, 71(8 Suppl):2035.
27. Kim J, Park YH, **Lee S-H**, Park Y. (2011) *trans*-10,*cis*-12 conjugated linoleic acid (CLA) inhibits adipogenesis from mouse mesenchymal stem cell via PPAR- $\gamma$  mediated pathway, *Experimental Biology 2011, FASEB J.*, 25: 775.16.
28. Park Y, Kim J, **Lee S-H**, Park YH. (2011) Improving bone health using bioactive lipids, the Annual Meeting and Expo for Korean Society of Food Science and Technology, Daegu, Korea.
29. Jeong JB, Shin YK, **Lee S-H**. (2013) Patchouli alcohol possesses anti-inflammatory activity in RAW264.7 and HT-29 cells. *Experimental Biology 2013, FASEB J.* 27(1): 1b561
30. Jeong JB, **Lee S-H**. (2013) Anti-cancer activity of protocatechualdehyde through HDAC2-mediated downregulation of cyclin D1 in human colorectal cancer cells. *Experimental Biology 2013, FASEB J.* 27(1): 1b578
31. Zhang X, **Lee S-H**, Li Q, Baek SJ (2013) Tolfenamic acid suppresses intestinal tumorigenesis through inhibiting cyclin D1 translation. *AACR Annual Meeting Proceedings 2013*, 73(8 Suppl):LB-181.
32. Yang X, Kim KJ, Shao HJ, **Lee S-H**. (2014) ESE-1 binds to beta-catenin and modulates its expression. *AACR Annual Meeting Proceedings 2014*;74(19 Suppl):4254.
33. Clark R, **Lee S-H**. (2014) Synergistic anti-cancer effects of capsaicin and 3,3'-diindolylmethane in human colorectal cancer, involvement of NF- $\kappa$ B and p53. *Experimental Biology 2014, FASEB J.* 28(1): 644.11.
34. **Lee S-H**, Clark R, Jeong JB, Krisanapun C, Baek SJ (2014) Nonsteroidal anti-inflammatory drug activated gene (NAG-1): Molecular target of capsaicin-induced apoptosis in colorectal cancer. *Korean-American Scientists and Engineers Association (KSEA) Symposium Proceeding*.
35. Jeong JB, Kim K-J, **Lee S-H**. (2015) TCF4 is a molecular target of resveratrol-induced apoptosis in colon cancer. *AACR Annual Meeting Proceedings 2015*, 75(15 Suppl):4564.
36. **Lee S-H**, Baek SJ (2015) Activating transcription factor 3: A molecular target for colorectal cancer. *Korean-American Scientists and Engineers Association (KSEA) Symposium Proceeding*.
37. Yang X, Baek S, **Lee S-H**. (2015) Dietary chemicals and molecular targets of colorectal cancer prevention. *Korean Nutrition Society (KNS) Annual Conference Proceeding*.
38. **Lee S-H**, Ha T, Lou Z. (2016) Tolfenamic acid downregulates  $\beta$ -catenin in colon cancer. *Experimental Biology 2014, FASEB J.* 30(1):1b89.
39. Lee J, Yue Y, Park Y, **Lee S-H**. (2017) Anti-adipogenic effect of 3,3'-diindolylmethane in 3T3-L1 preadipocytes and *Caenorhabditis elegans*. *Society of Toxicology (SOT). 56<sup>th</sup> Annual Meeting and ToxExpo*.
40. Lee J, **Lee S-H**. (2017) Arctigenin possesses anti-adipogenic and anti-cancer activities through modulating  $\beta$ -catenin expression. *Korean-American Scientists and Engineers Association (KSEA) Symposium Proceeding*.
41. Park Y, **Lee S-H**, Kim K-H. (2017) Application of *Caenorhabditis elegans* in food bioactive research on obesity. *Korean-American Scientists and Engineers Association (KSEA) Symposium Proceeding*.
42. Lou Z, Ha T, Xu Y, **Lee S-H**. (2017) Identification of ESE-1 as a tumor suppressor in lung cancer. *International Conference on Clinical Sciences and Drug Discovery (CSDD)*.

## **B.2. Research grants**

### **B.2.1. Extramural grants**

1. 2009 Jul-2012 Jun; Source: NCI/NIH (R03CA137755); Amount awarded: \$141,170; My role: PI (Co-Investigator: Baek); Title: Combinational anti-cancer effects of capsaicin and 3,3'-diindolylmethane in colorectal cancer
2. 2011 Jul-2016 Jun; Source: American Cancer Society (RSG-11-133-01-CCE); Amount awarded: \$720,000; My role: PI (Co-Investigator: McEntee, Baek); Title: Prevention of colorectal cancer by tolfenamic acid: Mechanistic studies.

### **B.2.2. Intramural grants**

1. 2010 Jun-2011 May; Source: University of Tennessee Obesity Research Center (UTORC); Amount awarded: \$15,000; My role: PI (Co-Investigator: Baek); Title: NSAID-activated gene-1 as a novel anti-obesity target
2. 2010 Jul-2011 Jun; Source: University of Tennessee COE Research Awards; Amount awarded: \$15,000; My role: PI (Co-Investigator: Baek); Title: Mechanistic study of tolfenamic acid-induced anti-cancer activity in human colorectal cancer cells
3. 2016 Jan-2017 Jun; Source: UMCP MAES; Amount awarded: \$30,000; My role: PI; Title: NAG-1: a molecular target of capsaicin and 3,3'-diindolylmethane in the prevention of obesity

## **B.3. Invited Talks**

1. 2004 Dec 5 “Conjugated linoleic acid and colorectal cancer prevention”; Invited seminar for interview; Dongkuk University, Seoul, South Korea.
2. 2008 Feb “Chemoprevention of colon cancer”. Invited talk for Comparative & Experimental Medicine Seminar Series, University of Tennessee, Knoxville, Tennessee
3. 2011 Feb 7 “NAG-1 as a molecular target of colorectal cancer prevention”, Invited talk for Comparative & Experimental Medicine Seminar Series; University of Tennessee, Knoxville, Tennessee.
4. 2011 Apr 21 “Cancer Prevention and dietary compounds”, Invited talk at University of Maryland, College Park, Maryland.
5. 2011 May 12 “Cancer Prevention and dietary compounds”, Invited talk at Purdue University, West Lafayette, Indiana.
6. 2013 Apr 16 “Introduction to Cancer”, Invited talk to members of Colleges against cancer in UMCP; University of Maryland, College Park, Maryland.
7. 2013 May 8 “Fighting Cancer with Nutrition”, Invited talk to 2013 AGNR Convocation events; University of Maryland, College Park, Maryland.
8. 2014 Aug 7 “Nonsteroidal anti-inflammatory drug activated gene: Molecular target of capsaicin-induced apoptosis in colorectal cancer”, Invited talk to 2014 US-Korea Conference (UKC); Korean-American Scientists and Engineers Association (KSEA), San Francisco, California.
9. 2015 Jun 8 “Fighting against cancer with diet”, Invited talk at Seoul National University (Dept of Nutrition), Seoul, Korea
10. 2015 Jun 9 “Tolfenamic acid and colorectal cancer”, Invited talk at Ajou University (College of Medicine), Suwon, Korea
11. 2015 Jun 10 “Molecular targets for colorectal cancer”, Invited talk at Rural Development Administration (RDA) (Division of Functional Food), Jeon-ju, Korea
12. 2015 Jun 11 “Fighting against cancer with phytochemicals”, Invited talk at Kookmin University (Dept. of Nutrition), Seoul, Korea
13. 2015 Jun 12 “Molecular targets for colorectal cancer”, Invited talk at Korea University (College of Life Science and Biotechnology), Seoul, Korea
14. 2015 Jun 15 “Cancer prevention with phytochemicals”, Invited talk at Korea University (College of Health Science), Seoul, Korea
15. 2015 July 30 “Activating transcription factor 3: A molecular target for colorectal cancer”, Invited talk to 2015 US-Korea Conference (UKC); Korean-American Scientists and Engineers Association (KSEA), Atlanta, Georgia.
16. 2015 Nov 6 “Dietary Chemicals and Molecular Targets of Colorectal Cancer Prevention” Invited talk to 2015 Korean Nutrition Society (KNS) Annual Conference; Nutrition and Omics: challenges and Breakthrough. Seoul, Korea



17. 2015 Nov 11 “Dietary chemicals and colon cancer”, Invited talk at Yeungnam University (School of Biotechnology), Daegu, Korea
18. 2017 Jun 19 “Molecular targets of colon cancer and dietary chemicals”, Invited talk at Cha University, Seongnam, Korea
19. 2017 Jun 21 “NAG-1: Molecular targets of colon cancer”, Invited talk at DGIST, Daegu, Korea
20. 2017 Jun 26 “ESE1 is molecular targets of colon cancer for dietary chemicals”, Invited talk at Keimyung University, Daegu, Korea
21. 2017 June 27 “Molecular targets of colon cancer: NAG-1 and ESE1”, Invited talk at Andong National University, Andong, Korea
22. 2017 July 11 “Pre- and probiotics in chronic diseases: cancer and adipogenesis” Invited talk to 2017 IAFP, Tampa, Florida.

## C. TEACHING

### C.1. Classroom Instruction

#### 1997-1999: Samyook University

- Advanced Nutrition
- Biochemistry
- Nutritional Assessment/Experiment
- Animal nutrition
- Food Science

#### 1998-1999: Korea University

- Ruminant Nutrition and digestive physiology
- Dairy Science

#### 2011- present: University of Maryland

##### Courses for classroom instruction

- NFSC620 - Diet and Cancer Prevention (3 credits); 100% involvement
- NFSC498L/678L - Diet and Optimal Human Health (3 credits); 100% involvement
- NFSC100 - Elements of Nutrition (3 credits); Lead instructor with 25% involvement
- NFSC100H (Honor); Lead instructor with 25% involvement
- NFSC100FC (Freshmen Connection); Lead instructor with 25% involvement

##### Summary of student numbers for academic year

		NFSC620	NFSC498L/678L			NFSC100			
		620	498L	678L	Subtotal	100	100H	100FC	Subtotal
2012	Spr	-	-	-	-	-	-	-	-
	Fall	<b>4</b>	-	-	-	-	-	-	-
2013	Spr	-	11	10	<b>21</b>	-	-	-	-
	Fall	<b>4</b>	-	-	-	416	11	42	<b>469</b>
2014	Spr	-	8	5	<b>13</b>	441	-	-	<b>441</b>
	Fall	<b>7</b>	-	-	-	339	8	40	<b>387</b>
2015	Spr	-	9	6	<b>15</b>	291	-	-	<b>291</b>
	Fall	<b>5</b>	-	-	-	313	5	42	<b>360</b>
2016	Spr	-	20	0	<b>20</b>	296	-	-	<b>296</b>
	Fall	<b>7</b>	-	-	-	312	2	53	<b>369</b>
2017	Spr	-	14	6	<b>20</b>	292	-	-	<b>292</b>
	Fall								

### C.2. Academic advising for undergraduate students

#### 2011- : University of Maryland

##### Numeric summary of undergraduate students for academic advising

2012	Spr	-
	Fall	7
2013	Spr	7
	Fall	34

2014	Spr	30
	Fall	30
2015	Spr	30
	Fall	30
2016	Spr	22
	Fall	22
2017	Spr	22
	Fall	22

### C.3. Research advising and mentoring

2011- : University of Maryland

Course for research mentoring

- NFSC498A: Individual study (1-3 credits)
- NFSC799: Master's Thesis Research (1-6 credits)
- NFSC898: Pre-Candidacy Research (1-8 credits)

Summary of student numbers for academic year

		NFSC498A	NFSC799	NFSC898
2013	Spr	-	1	-
	Fall	2	2	-
2014	Spr	-	1	-
	Fall	4	3	-
2015	Spr	2	3	-
	Fall	3	2	-
2016	Spr	2	2	1
	Sum	1	-	-
	Fall	3	2	1
2017	Spr	1	1	2
	Fall	-	1	2

### A list of graduate students, post-doctorates and visiting scholars

Graduate students I advised

<i>Year</i>	<i>Name</i>	<i>Degree</i>	<i>Title of thesis/dissertation</i>
2012-2014	Ruth Clark	MS	Synergistic anti-cancer effects of capsaicin and DIM
2013-2015	Xiaojing Jiang	MS	The potential dichotomous role of ATF3 in colon cancer
2014-2016	Zhiyuan Lou	MS	Anticancer mechanism of tolfenamic acid in colon cancer
2014-2016	Elizabeth Leahy	MS	The effect of folic acid and its metabolites on colon cancer
2014-	Jihye Lee	PhD	
2016-	Yanrui Xu	MS	
2016-	Zhiyuan Lou	PhD	
2017-	Correy Jones	PhD	

Post-doctorates and other researchers I advised

<i>Year</i>	<i>Name</i>	<i>Position</i>	<i>Research area</i>
2012-2012	Yong Kyu Shin	KUSCO Intern	Nutritional Biochemistry
2012-2013	Ji Eun Choi	KUSCO Intern	Nutritional Biochemistry
2012-2013	Dr. Jin Boo Jeong	Post-doctorate	Chemoprevention
2012-2014	Dr. Xuyu Yang	Post-doctorate	Molecular Carcinogenesis
2013-2014	Dr. Kui-Jin Kim	Post-doctorate	Tumorigenesis
2013-2014	Dr. Hongjun Shao	Visiting Scientist	Nutritional Biochemistry
2013-2014	Dr. Xin Geng	Visiting Scientist	Nutrition
2014-2015	Dr. Taekyu Ha	Post-doctorate	Molecular Biology
2015-2015	Jinyeong Lim	Scientist	Cancer Biology

Graduate students I served as committee member

*Year Name (Degree)*

2012 Tiffany Tzeng (MS)  
2013 Jallah Rouse (MS), Tsung-Yu Wu (PhD)  
2014 Cyndy Feng (MS), Eric Campbell (MS), Jing Hu (PhD), Maryam Ganjavi (PhD), Haiqiu Huang (PhD)  
2015 Hyuilin Cao (MS), Shuai Tang (MS), Changhui Zhao (PhD), Haiwen Li (PhD), Lu Yu (PhD)  
2016 Chanmi Kim (MS), Yuqing Ying (MS), Kathleen Sanders (MS), Jaime Gache (PhD),  
Qingyang Wang (PhD), Boyan Gao (PhD)  
2017 Yinzhi Qu (MS), Xun Yang (MS)

#### **C.4. Course or Curriculum Development**

2012 Fall; Designed and developed NFSC620 “Diet and Cancer Prevention” (3 credits)  
2013 Spr; Designed and developed NFSC498L/678L “Diet and Optimal Human Health” (3 credits)

### **D. SERVICES**

#### **D.1. Editorships, Editorial Boards, and Reviewing Activities**

##### Editorial Boards

2016 Journal of Animal Science and Technology (JAST)

##### Reviewing Activities for Journals

Year (Number of articles)

2009 (7), 2010 (6), 2011 (4), 2012 (8), 2013 (4), 2014 (6), 2015 (7), 2016 (12), 2017 (6)

#### **D.2. Committees, Professional & Campus Service**

##### **D.2.1. Department Committees**

2012 Shorb lecture  
2013 Shorb lecture, Annual Research Day, Teaching Assistantship, Graduate Admission, Department Faculty Search  
2014 Shorb lecture, Annual Research Day (Chair), Teaching Assistantship, Graduate Admission, Department Faculty Search  
2015 Shorb lecture (Chair), Teaching Assistantship, Graduate Admission  
2016 Teaching Assistantship, Graduate Admission, Senior Faculty Specialist Search, Departmental Review  
2017 Graduate Admission, Teaching Assistantship, Faculty Search (Chair)

##### **D.2.2. Other Professional Activities and External Services**

2011 AGNR Open House Day judge  
2012 AGNR Open House Day judge, Department marshal for commencement  
2013 USDA ARS Search Committee, Department Marshal for commencement, ANSC Annual Symposium judge  
2014 ANSC Annual Symposium judge  
2015 National 4-H Healthy Living Forum, External supervisor of International Research project (OECD & Korea MFDS), Department Marshal for commencement

### **E. MEMBERSHIP OF PROFESSIONAL ORGANIZATIONS**

2012- American Association of Cancer Research (Active member)  
2012- American Society for Biochemistry and Molecular Biology (Active member)