

Qing LI, MD, PhD

Senior Assistant Professor
Department of Hygiene and Public Health
Nippon Medical School
1-1-5, Sendagi, Bunkyo-ku, Tokyo 113-8602
Japan
Tel: +81-3-3822-2131
Fax: +81-3-5685-3065
E-mail: qing-li@nms.ac.jp



Research interests

1. Forest Medicine

Effect of forest bathing (natural aromatherapy) on human natural killer activity, and the expression of anti-cancer proteins, perforin, granzymes A and B, and granulysin.

2. Environmental Immunology

Effect of environmental factors including lifestyle, phytoncides, forest bathing (natural aromatherapy), stress, and environmental chemicals including pesticides on human natural killer (NK) activity, the numbers of NK, NKT and T cells, and the expression of anti-cancer proteins, perforin, granzymes A, B, and 3/K, and granulysin.

3. Immunotoxicology, Environmental and Occupational Allergy

4. Genotoxicology/Apoptosis of organophosphorus pesticides

Associations

Japanese Society for Hygiene

President of the Japanese Society of Forest Medicine (<http://forest-medicine.com>)

Japan Society for Occupational Health

Japanese Society of Immunotoxicology

Japanese Society of Environmental and Occupational Allergy

Society of Toxicology of USA

IUFRO (International Union of Forest Research Organizations)

Steering Committee member for Task Force on Forests and Human Health (ForHealth) (<http://www.forhealth.fi/pmwiki/pmwiki.php?n=Main.SteeringCommittee>)

Prizes

1. The first prize at the 4th Conference of Nippon Medical School for Foreign Researcher (September, 1993).
2. The Inoue Research Prize from the Institute for Science of Labour (May, 1994).
3. Encouragement Award from the Japan Society for Occupational Health (May, 2006).
4. Encouragement Award from the Medical Association of Nippon Medical School (September, 2006).

Main papers in English

1. Li Q, Morimoto K, Kobayashi M, Inagaki H, Katsumata M, Hirata Y, Hirata K, Suzuki H, Li YJ, Wakayama Y, Kawada T, Park BJ, Ohira T, Matsui N, Kagawa T, Miyazaki Y, Krensky AM. Visiting a forest, but not a city, increases human natural killer activity and expression of anti-cancer proteins. *Int J Immunopathol Pharmacol*. 2008 (in press).
2. Li Q, Morimoto K, Kobayashi M, Inagaki H, Katsumata M, Hirata Y, Hirata K, Suzuki H, Li YJ, Wakayama Y, Kawada T, Ohira T, Takayama N, Kagawa T, Miyazaki Y. A forest bathing trip increases human natural killer activity and expression of anti-cancer proteins in female subjects. *J Biol Regul Homeost Agents*. 2008 (in press).
3. Li Q, Kobayashi M, Kawada T. DDVP markedly decreases the expression of granzyme B and granzyme 3/K in human NK cells. *Toxicology* 243:294-302, 2008.
4. Li Q, Kobayashi M, Kawada T. Organophosphorus pesticides induce apoptosis in human NK cells. *Toxicology* 239:89-95, 2007.
5. Li Q, Morimoto K, Nakadai A, Inagaki H, Katsumata M, Shimizu T, Hirata Y, Hirata K, Suzuki H, Miyazaki Y, Kagawa T, Koyama Y, Ohira T, Takayama N, Krensky AM, Kawada T. Forest bathing enhances human natural killer activity and expression of anti-cancer proteins. *Int J Immunopathol Pharmacol*. 20 (S2): 3-8, 2007.
6. Li Q, Morimoto K, Nakadai, A, Qu Tianli, Matsushima H, Katsumata M, Shimizu T, Inagaki H, Hirata Y, Hirata K, Kawada T, Lu Y, Nakayama K, Krensky AM. Healthy lifestyles are associated with higher levels of perforin, granulysin and granzymes A/B-expressing cells in peripheral blood lymphocytes. *Prev Med*. 44: 117-123, 2007.
7. Li Q. New mechanism of organophosphorus pesticide-induced immunotoxicity. *Journal of Nippon Medical School* 74: 92-105, 2007.
8. Li Q, Kawada T. The new mechanism of organophosphorus pesticides-induced inhibition of cytolytic activity of killer cells. *Cellular & Molecular Immunology (CMI)* 3: 171-178, 2006.
9. Nakadai A, Li Q (co-first author), Kawada T. Chlorpyrifos induces apoptosis in human monocyte cell line U937. *Toxicology* 224:202-9, 2006.
10. Li Q, A. Nakadai, H. Matsushima, Y. Miyazaki, A.M. Krensky, T. Kawada and K. Morimoto. Phytoncides (wood essential oils) induce human natural killer cell activity. *Immunopharmacol Immunotoxicol*. 28, 319-33, 2006.
11. Hirata Y, Inagaki H, Shimizu T, Li Q, Nagahara N, Minami M, Kawada T. Expression of enzymatically active human granzyme 3 in *Escherichia coli* for analysis of its substrate specificity. *Arch Biochem Biophys*. 446:35-43, 2006.
12. Li Q, Dong C., Deng A., Katsumata M., Nakadai A, Kawada T, Okada S., Clayberger C, KrenskyAM. Hemolysis of Erythrocytes by Granulysin Derived Peptides but not by Granulysin. *Antimicrobial Agents and Chemotherapy* 49: 388-397, 2005.
13. Dong C, Li Q, Lyu, S, KrenskyAM, Clayberger C. A novel apoptosis pathway activated by the carboxyl terminus of p21. *Blood* 105:1187-94, 2005.
14. Deng A, Chen S, Li Q, Lyu SC, Clayberger C, Krensky AM. Granulysin, a cytolytic molecule, is also a chemoattractant and proinflammatory activator. *J Immunol* 174: 5243-8, 2005.
15. Li Q, Nakadai A, Ishizaki M, Morimoto K, Ueda A, Krensky AM, Kawada T. Dimethyl 2, 2-dichlorovinyl phosphate (DDVP) markedly decreases the expression of perforin, granzyme A and granulysin in human NK-92CI cell line. *Toxicology*. 213:107-16, 2005.
16. Li Q, Liang Z, Nakadai A, Kawada T. Effect of electric foot shock and psychological stress on NK, LAK and CTL activities, NK receptors and mRNA transcripts of granzymes and perforin. *Stress* 8: 107-116, 2005.
17. Kawada T, Katsumata M, Suzuki H, Li Q, Inagaki H, Nakadai A, Shimizu T, Hirata K, Hirata Y. Insomnia as a sequela of sarin toxicity several years after exposure in Tokyo

- subway trains. *Percept Motor Skills* 100:1121-6, 2005.
18. Li Q, Hirata Y, Kawada T and Minami M. Elevated frequency of sister chromatid exchanges of lymphocytes in sarin-exposed victims of the Tokyo sarin disaster 3 years after the event. *Toxicology* 201: 209-217, 2004.
 19. Li Q, Nakadai A, Takeda K, Kawada T. Dimethyl 2,2-dichlorovinyl phosphate (DDVP) markedly inhibits activities of natural killer cells, cytotoxic T lymphocytes and lymphokine-activated killer cells *via* the Fas-ligand/Fas pathway in perforin-knockout (PKO) mice. *Toxicology* 204: 41-50, 2004.
 20. Hanaoka T, Li Q, Imagawa J, Taguchi M, Minami M, Tsugane S. Occupational Allergic Dermatitis Induced by an Epoxy Hardener Alkylamin. *J Occup Health* 44: 264-266, 2002.
 21. Okada S, Li Q (co-first author), Whitin JC, Clayberger C, Krensky AM. Intracellular Mediators of Granulysin-induced Cell Death. *J Immunol.* 171: 2556-2562, 2003.
 22. Sreeja VG, Nagahara N, Li Q, Minami M. New aspects in pathogenesis of konzo: neural cell damage directly caused by linamarin contained in cassava (*Manihot esculenta* Crantz). *Br J Nutr.* 90: 467-72, 2003.
 23. Li Q, Nagahara N, Takahashi H, Takeda K, Okumura K, Minami M. Organophosphorus pesticides markedly inhibit the activities of natural killer, cytotoxic T lymphocyte and lymphokine-activated killer: a proposed inhibiting mechanism via granzyme inhibition. *Toxicology* 172: 181-90, 2002.
 24. Li Q, Hirata Y, Piao S and Minami M. The by-products generated during sarin synthesis in the Tokyo sarin disaster induced inhibition of natural killer and cytotoxic T lymphocyte activity. *Toxicology* 146: 209-220, 2000.
 25. Li Q, Hirata Y, Piao S and Minami M. Immunotoxicity of N,N-diethylaniline in mice: Effect on natural killer activity, cytotoxic T lymphocyte activity, lymphocyte proliferation response and cellular components of the spleen. *Toxicology* 150: 181-191, 2000.
 26. Li Q, Minami M, Hanaoka T, Yamamura Y. Acute immunotoxicity of p-chloronitrobenzene in mice: II. Effect of p-chloronitrobenzene on the immunophenotype of murine splenocytes determined by flow cytometry. *Toxicology* 137: 35-45, 1999.
 27. Li Q, Minami M, Inagaki H. Acute and subchronic immunotoxicity of p-chloronitrobenzene in mice: I. Effect on natural killer, cytotoxic T lymphocyte activities and mitogen-stimulated lymphocyte proliferation. *Toxicology* 127: 223-232, 1998.
 28. Li Q, Minami M, Clement JG, Boulet CA. Elevated frequency of sister chromatid exchanges in experiments by exposing lymphocytes to by-products generating of sarin synthesis:-Relating to Tokyo sarin disaster-. *Toxicol. Letters* 98: 95-103, 1998.
 29. Li Q, Minami M. Sister chromatid exchange of human peripheral blood lymphocytes induced by N, N-diethylaniline *in vitro*. *Mutation Res/Genetic Toxicology and Environmental Mutagenesis* 395: 151-157, 1997.
 30. Li Q, Inagaki H, Minami M. Evaluation of cross-sensitization among dye-intermediate using a modified lymphocyte transformation test. *Arch. of Toxicol.* 70: 414-419, 1996.
 31. Li Q, Wang ZY, Inagaki H, Li YJ, Minami M. Evaluation of contact sensitivity to formaldehyde and tetramethylthiuram monosulfide using a modified lymphocyte transformation test. *Toxicology* 104: 17-23, 1995.
 32. Li Q, Aoyama K, Matsushita T. Evaluation of contact allergy to chemicals using laser Doppler flowmetry (LDF) technique. *Contact Dermatitis* 26: 27-33, 1992.
 33. Li Q, Aoyama K. Study of dose-response relationship in contact sensitivity using an *in vitro* assay. *Contact Dermatitis* 27: 16-21, 1992.
 34. Li Q, Aoyama K. *In vitro* evaluation on contact sensitivity from DNCB and DNBS using

- lymphocyte blastogenesis response test. Japanese Journal of Industrial Health (Sangyo Igaku) 33: 509-518, 1991.
35. Li Q, Sugimoto M, Imamura F, Matsushita T, Araki S. Immunological abnormalities in HTLV-I-associated myelopathy: Spontaneous release of interleukin-2 and interleukin-2 receptor by peripheral blood lymphocytes. Japanese Journal of Medicine 29: 487-492, 1990.

Books in English

1. Li Q. Organophosphorus Compounds Inhibit Natural Killer Cell Activity. In: Nathan V. Fournier (eds): Natural Killer T-Cells: Roles, Interactions, and Interventions. Nova Science Publishers, Inc. 400 Oser Avenue, Suite 1600, Hauppauge, NY, USA, 2008 (in press).
2. Morimoto K and Li Q (co-first author). Lifestyle and Natural Killer Activity. In: Nathan V. Fournier (eds): Natural Killer T-Cells: Roles, Interactions, and Interventions. Nova Science Publishers, Inc. 400 Oser Avenue, Suite 1600, Hauppauge, NY, USA, 2008 (in press).
3. Li Q. Apoptosis (Section-III, Chapter 14, (30 pages): In: Satoh T and Gupta R (eds): Anticholinesterrase Pesticides: Metabolism, Neurotoxicity and Epidemiology". John Wiley & Sons, Inc. NJ, USA, 2008 (in press).
4. Li Q. NK Cell Assays in Immunotoxicity Testing, Immunotoxicity Testing Methods in series of Molecular Biology, Dietert RR, eds, Humana Press, NJ, USA, 2008 (in press).