

Leonard M. Neckers, Ph.D.

UPDATED BIBLIOGRAPHY (5.14)

Peer-Reviewed Publications

- 1 Neckers, L.M. The involvement of physiological stress and adrenal glucocorticoids in the regulation of brain 5-hydroxytryptamine metabolism in the mouse and rat. Ph.D. Dissertation at The University of Connecticut, Storrs, Connecticut: 1974.
- 2 Sze, P.Y. and Neckers, L. Requirement for adrenal glucocorticoid in the ethanol-induced increase of tryptophan hydroxylase activity in mouse brain, *Brain Res.*, *72*: 375-378, 1974.
- 3 Meek, J.L. and Neckers, L.M. Measurement of tryptophan hydroxylase in single brain nuclei by high pressure liquid chromatography, *Brain Res.*, *91*: 336-340, 1975.
- 4 Neckers, L. and Sze, P.Y. Regulation of 5-hydroxytryptamine metabolism in mouse brain by adrenal glucocorticoids, *Brain Res.*, *93*: 123-132, 1975.
- 5 Neckers, L.M., Zarrow, M.X., Myers, M.M. and Denenberg, V.H. Influence of olfactory bulbectomy and the serotonergic system upon intermale aggression and maternal behavior in the mouse, *Pharmacol. Biochem. Behav.*, *3*: 545-550, 1975.
- 6 Neckers, L.M. and Meek, J.L. Measurement of 5HT turnover rate in discrete nuclei of rat brain, *Life Sci.*, *19*: 1579-1584, 1976.
- 7 Neckers, L.M., Bertilsson, L., Koslow, S.H. and Meek, J.L. Reduction of tryptophan hydroxylase activity and 5-hydroxytryptamine concentration in certain rat brain nuclei after p-chloroamphetamine, *J. Pharmacol. Exp. Ther.*, *196*: 333-338, 1976.
- 8 Neckers, L.M., Bertilsson, L. and Costa, E. The action of fenfluramine and p-chloroamphetamine on serotonergic mechanisms: A comparative study in rat brain nuclei, *Neurochem. Res.*, *1*: 29-35, 1976.
- 9 Sze, P.Y., Neckers, L. and Towle, A.C. Glucocorticoids as a regulatory factor for brain tryptophan hydroxylase, *J. Neurochem.*, *26*: 169-173, 1976.
- 10 Neckers, L.M., Biggio, G., Moja, E. and Meek, J.L. Modulation of brain tryptophan hydroxylase activity by brain tryptophan content, *J. Pharmacol. Exp. Ther.*, *201*: 110-116, 1977.
- 11 Neckers, L.M., Neff, N.H., Garrison-Gund, C.K. and Wyatt, R.J. Increased adenylate cyclase activity and rapid weight loss following intraseptal injection of cholera toxin, *Eur. J. Pharmacol.*, *51*: 141-144, 1978.
- 12 Bertilsson, L., Asberg, M., Mellstrom, B., Neckers, L.M., Sjoquist, F., Thoren, P., Traskman, L. and Tybing, G. Plasma levels of chlorimipramine and its demethyl

- metabolite during treatment of depression. I. Differential effects of the two compounds on serotonergic and noradrenergic neurons, *Clin. Pharmacol. Ther.*, 26: 600-610, 1979.
- 13 Kobes, R.D., Potkin, S.G., Wise, C.D., Bridge, T.P., Neckers, L.M. and Wyatt, R.J. Some kinetic parameters of platelet monoamine oxidase in chronic schizophrenia, *Psychiatry Res.*, 1: 179-185, 1979.
 - 14 Neckers, L.M., Neff, N.H. and Wyatt, R.J. Effects of kainic acid on serotonin metabolism in striatum: Evidence of feedback regulation of synthesis, *Naunyn-Schmiedeberg's Arch. Pharmacol.*, 306: 173-178, 1979.
 - 15 Neckers, L.M., Speciale, S.G. and Schwartz, J.P. Evidence for the existence of a substance P-containing habenula-raphé pathway, *Exp. Brain Res.*, 37: 619-623, 1979.
 - 16 Neckers, L.M. Cholera toxin action in the central nervous system: effects on serotonin metabolism, *Adv. Cytopharmacol.*, 3: 447-453, 1979.
 - 17 Neckers, L.M., Schwartz, J.P., Wyatt, R.J. and Speciale, S.G. Substance P afferents from the habenula innervate the dorsal raphe nucleus, *Exp. Brain Res.*, 37: 619-623, 1979.
 - 18 Neckers, L.M. Application of high-performance liquid chromatography to the assay of biogenic amines and drugs--discussion, *Psychopharmacol. Bull.*, 15: 48-50, 1979.
 - 19 Neckers, L.M., Neff, N.H. and Wyatt, R.J. Increased serotonin turnover in corpus striatum following an injection of kainic acid: evidence for neuronal feedback regulation of synthesis, *Naunyn Schmiedeberg's Arch. Pharmacol.*, 306: 173-177, 1979.
 - 20 Rosenblatt, J.E., Shore, D., Neckers, L.M., Perlow, M.J., Freed, W.J. and Wyatt, R.J. Effects of chronic haloperidol on caudate 3H-spiroperidol binding in lesioned rats, *Eur. J. Pharmacol.*, 60: 387-388, 1979.
 - 21 Traskman, L., Asberg, M., Bertilsson, L., Cronholm, B., Mellstrom, B., Neckers, L.M., Sjoqvist, F., Thoren, P. and Tybring, G. Plasma levels of chlorimipramine and its demethyl metabolite during treatment of depression, *Clin. Pharmacol. Ther.*, 26: 600-610, 1979.
 - 22 DeLisi, L.E., Neckers, L.M., Staub, R.A., Zalzman, S.J. and Wyatt, R.J. Lymphocyte monoamine oxidase activity and chronic schizophrenia, *Psychiatry Res.*, 2: 179-186, 1980.
 - 23 Kobes, R.D., Wyatt, R.J. and Neckers, L.M. A sensitive and rapid fluorimetric assay for monoamine oxidase utilizing high pressure liquid chromatography, *J. Pharmacol. Methods*, 3: 305-310, 1980.
 - 24 Luchins, D.J., Weinberger, D.R., Kleinman, J.E., Neckers, L., Rosenblatt, J.E., Bigelow, L.B. and Wyatt, R.J. Human leukocyte antigen A2 and psychopathology in chronic schizophrenia, *Am. J. Psychiatry*, 137: 499-500, 1980.

- 25 Speciale, S.G., Neckers, L.M. and Wyatt, R.J. Habenular modulation of raphe indoleamine metabolism, *Life Sci.*, 27: 2367-2372, 1980.
- 26 DeLisi, L.E., Neckers, L.M., Weinberger, D.R. and Wyatt, R.J. Increased whole blood serotonin concentrations in chronic schizophrenic patients, *Arch. Gen. Psychiatry*, 38: 647-650, 1981.
- 27 DeLisi, L.E., Weinberger, D.R., Potkin, S., Neckers, L.M., Shiling, D.J. and Wyatt, R.J. Quantitative determination of immunoglobulins in CSF and plasma of chronic schizophrenic patients, *Br. J. Psychiatry*, 139: 513-518, 1981.
- 28 Jeste, D.V., Neckers, L.M., Wagner, R.L., Wise, C.D., Staub, R.A., Rogol, A., Potkin, S.G., Bridge, T.P. and Wyatt, R.J. Lymphocyte monoamine oxidase and plasma prolactin and growth hormone in tardive dyskinesia, *J. Clin. Psychiatry*, 42: 75-77, 1981.
- 29 Neckers, L.M., DeLisi, L.E. and Wyatt, R.J. Liquid-chromatographic quantification of plasma phenylalanine, tyrosine, and tryptophan, *Clin. Chem.*, 27: 146-148, 1981.
- 30 Neff, N.H. and Neckers, L.M. Evidence for neuronal feedback regulation of serotonin formation in brain, *Adv. Exp. Med. Biol.*, 133: 445-453, 1981.
- 31 Rohwer, R.G., Neckers, L.M., Trepel, J.B., Gajdusek, D.C. and Wyatt, R.J. Serotonin concentrations in brain and blood of scrapie-infected and normal hamsters and mice, *Brain Res.*, 220: 367-371, 1981.
- 32 Speciale, S.G., Neckers, L.M. and Wyatt, R.J. Habenular modulation of raphe indoleamine metabolism, *Life Sci.*, 27: 2368-2372, 1981.
- 33 Thonnard-Neumann, E. and Neckers, L.M. Immunity in migraine: the effect of heparin, *Ann. Allergy*, 47: 328-332, 1981.
- 34 Thonnard-Neumann, E. and Neckers, L.M. T-lymphocytes in migraine, *Ann. Allergy*, 47: 325-327, 1981.
- 35 Zalzman, S.J., Neckers, L.M., Kaayalp, O. and Wyatt, R.J. Muscarinic cholinergic binding sites on intact human lymphocytes, *Life Sci.*, 29: 69-73, 1981.
- 36 Cossman, J., Neckers, L.M., Arnold, A. and Korsmeyer, S.J. Induction of differentiation in a case of common acute lymphoblastic leukemia, *N. Engl. J. Med.*, 307: 1251-1254, 1982.
- 37 DeLisi, L.E., Goodman, S., Neckers, L.M. and Wyatt, R.J. An analysis of lymphocyte subpopulations in schizophrenic patients, *Biol. Psychiatry*, 17: 1003-1009, 1982.
- 38 Goodman, S.I., Wyatt, R.J., Trepel, J.B. and Neckers, L.M. NAD glycohydrolase: enzyme characterization using intact mammalian erythrocytes, *Comp. Biochem. Physiol. B.*, 71: 333-336, 1982.

- 39 Cossman, J., Neckers, L.M., Leonard, W.J. and Greene, W.C. Polymorphonuclear neutrophils express the common acute lymphoblastic leukemia antigen, *J. Exp. Med.*, *157*: 1064-1069, 1983.
- 40 Dzik, W.H. and Neckers, L. Lymphocyte subpopulations altered during blood storage, *N. Engl. J. Med.*, *309*: 435-436, 1983.
- 41 Grimm, E.A., Robb, R.J., Roth, J.A., Neckers, L.M., Lachman, L.B., Wilson, D.J. and Rosenberg, S.A. Lymphokine-activated killer cell phenomenon: III. Evidence that IL-2 is sufficient for direct activation of peripheral blood lymphocytes into lymphokine-activated killer cells, *J. Exp. Med.*, *158*: 1356-1361, 1983.
- 42 Korsmeyer, S.J., Greene, W.C., Cossman, J., Hsu, S.-M., Neckers, L.M., Marshall, S.L., Jensen, J.P., Bakhshi, A., Leonard, W.J., Jaffe, E.S. and Waldmann, T.A. Rearrangement and expression of immunoglobulin genes and expression of TAC antigen in hairy cell leukemia, *Proc. Natl. Acad. Sci. USA*, *80*: 4522-4526, 1983.
- 43 Neckers, L.M. and Cossman, J. Transferrin receptor induction in mitogen-stimulated human T lymphocytes is required for DNA synthesis and cell division and is regulated by interleukin 2, *Proc. Natl. Acad. Sci. USA*, *80*: 3494-3498, 1983.
- 44 Potkin, S.G., Cannon-Spoor, H.E., DeLisi, L.E., Neckers, L.M. and Wyatt, R.J. Plasma phenylalanine, tyrosine, and tryptophan in schizophrenia, *Arch. Gen. Psychiatry*, *40*: 749-752, 1983.
- 45 Cossman, J., Neckers, L.M., Hsu, S., Longo, D. and Jaffe, E.S. Low-grade lymphomas. Expression of developmentally regulated B-cell antigens, *Am. J. Pathol.*, *115*: 117-124, 1984.
- 46 Cossman, J., Neckers, L.M., Braziel, R.M., Trepel, J.B., Korsmeyer, S.J. and Bakhshi, A. In vitro enhancement of immunoglobulin gene expression in chronic lymphocytic leukemia, *J. Clin. Invest.*, *73*: 587-592, 1984.
- 47 Dzik, W.H. and Neckers, L. Mononuclear cell-surface antigens during storage of banked blood, *Transplantation*, *38*: 67-71, 1984.
- 48 James, S.P., Neckers, L.M., Graeff, A.S., Cossman, J., Balch, C.M. and Strober, W. Suppression of immunoglobulin synthesis by lymphocyte subpopulations in patients with Crohn's disease, *Gastroenterology*, *86*: 1510-1518, 1984.
- 49 Neckers, L.M. Transferrin receptors regulate proliferation of normal and malignant B cells, *Curr. Top. Microbiol. Immunol.*, *113*: 62-68, 1984.
- 50 Neckers, L.M. and Cossman, J. Transferrin receptor induction in mitogen-stimulated human T lymphocytes is required for DNA synthesis and cell division and is regulated by interleukin-2 (TCGF). *In*: A. L. Goldstein (ed.), *Thymic Hormones and Lymphokines*, pp. 383-394. Plenum Publ. Corp.: New York, 1984.

- 51 Neckers, L.M., Yenokida, G. and James, S.P. The role of the transferrin receptor in human B lymphocyte activation, *J.Immunol.*, *133*: 2437-2441, 1984.
- 52 Silver, B.A., Bostick-Bruton, F.W., Neckers, L. and Fisher, R.I. Deficient helper cell function as a cause of diminished pokeweed mitogen blastogenic responses in patients with non-Hodgkin's lymphomas, *Cancer*, *54*: 2936-2942, 1984.
- 53 Thorgeirsson, U.P., Turpeenniemi-Hujanen, T., Neckers, L.M., Johnson, D.W. and Liotta, L.A. Protein synthesis but not DNA synthesis is required for tumor cell invasion in vitro, *Invasion Metastasis*, *4*: 73-83, 1984.
- 54 Braziel, R.M., Sussman, E., Jaffe, E.S., Neckers, L.M. and Cossman, J. Induction of immunoglobulin secretion in follicular non-Hodgkin's lymphomas: role of immunoregulatory T cells, *Blood*, *66*: 128-134, 1985.
- 55 Colamonici, O.R., Trepel, J.B. and Neckers, L.M. Phorbol ester enhances deoxynucleoside incorporation while inhibiting proliferation of K-562 cells, *Cytometry*, *6*: 591-596, 1985.
- 56 Neckers, L.M., Yenokida, G., Trepel, J.B., Lipford, E. and James, S. Transferrin receptor induction is required for human B-lymphocyte activation but not for immunoglobulin secretion, *J.Cell Biochem.*, *27*: 377-389, 1985.
- 57 Neckers, L.M., Funkhouser, W.K., Trepel, J.B., Cossman, J. and Gratzner, H.G. Significant non-S-phase DNA synthesis visualized by flow cytometry in activated and in malignant human lymphoid cells, *Exp.Cell Res.*, *156*: 429-438, 1985.
- 58 Raffeld, M., Neckers, L., Longo, D.L. and Cossman, J. Spontaneous alteration of idiotype in a monoclonal B-cell lymphoma. Escape from detection by anti-idiotype, *N. Engl. J. Med.*, *312*: 1653-1658, 1985.
- 59 Colamonici, O.R., Trepel, J.B., Vidal, C.A. and Neckers, L.M. Phorbol ester induces c-sis gene transcription in stem cell line K-562, *Mol. Cell Biol.*, *6*: 1847-1850, 1986.
- 60 Funkhouser, W.K., Neckers, L.M., Ames, R.S., Carney, D.N. and Roth, J.A. Inhibition of DNA synthesis by a small-cell lung carcinoma-derived protein, *J. Natl. Cancer Inst.*, *77*: 925-932, 1986.
- 61 Neckers, L.M., Bauer, S., McGlennen, R.C., Trepel, J.B., Rao, K. and Greene, W.C. Diltiazem inhibits transferrin receptor expression and causes G1 arrest in normal and neoplastic T cells, *Mol. Cell, Biol.*, *6*: 4244-4250, 1986.
- 62 Neckers, L.M., Vidal, C., McGlennen, R. and Colamonici, O. Phorbol ester-induced surface transferrin receptor modulation. No correlation with decreased cell proliferation, *Exp. Cell Res.*, *166*: 151-160, 1986.

- 63 Tsuda, H., Neckers, L.M. and Pluznik, D.H. Colony stimulating factor-induced differentiation of murine M1 myeloid leukemia cells is permissive in early G1 phase, *Proc. Natl. Acad. Sci. U.S.A.*, *83*: 4317-4321, 1986.
- 64 Heikkila, R., Schwab, G., Wickstrom, E., Loke, S.L., Pluznik, D.H., Watt, R. and Neckers, L.M. A c-myc antisense oligodeoxynucleotide inhibits entry into S phase but not progress from G0 to G1, *Nature*, *328*: 445-449, 1987.
- 65 Heikkila, R., Trepel, J.B., Cuttitta, F., Neckers, L.M. and Sausville, E.A. Bombesin-related peptides induce calcium mobilization in a subset of human small cell lung cancer cell lines, *J. Biol. Chem.*, *262*: 16456-16460, 1987.
- 66 Katsaros, D., Tortora, G., Tagliaferri, P., Clair, T., Ally, S., Neckers, L., Robins, R.K. and Cho-Chung, Y.S. Site-selective cyclic AMP analogs provide a new approach in the control of cancer cell growth, *FEBS Lett.*, *223*: 97-103, 1987.
- 67 Trepel, J.B., Colamonici, O.R., Kelly, K., Schwab, G., Watt, R.A., Sausville, E.A., Jaffe, E.S. and Neckers, L.M. Transcriptional inactivation of c-myc and the transferrin receptor in dibutyryl cyclic AMP-treated HL-60 cells, *Mol. Cell. Biol.*, *7*: 2644-2648, 1987.
- 68 Tsuda, H., Neckers, L.M. and Pluznik, D.H. Enhanced c-fos expression in differentiated monomyelocytic cells is associated with differentiation and not with the position of the differentiated cells in the cell cycle, *Exp. Hematol.*, *15*: 700-703, 1987.
- 69 Colamonici, O.R., Rosolen, A., Cole, D., Kirsch, I., Felix, C., Poplack, D.G. and Neckers, L.M. Stimulation of the beta-subunit of the IL-2 receptor induces MHC-unrestricted cytotoxicity in T acute lymphoblastic leukemia cells and normal thymocytes, *J. Immunol.*, *141*: 1202-1205, 1988.
- 70 Colamonici, O.R., Quinones, R., Rosolen, A., Trepel, J.B., Sausville, E.A., Phares, J.C., Gress, R., Poplack, D., Weber, J., Schechter, G.P. and Neckers, L.M. The beta subunit of the interleukin-2 receptor mediates interleukin-2 induction of anti-CD3 redirected cytotoxic capability in large granular lymphocytes, *Blood*, *71*: 825-828, 1988.
- 71 Colamonici, O.R., Ang, S., Quinones, R., Henkart, P., Heikkila, R., Gress, R., Felix, C., Kirsch, I., Longo, D., Marti, G., Seidman, J.G. and Neckers, L.M. IL-2 dependent expansion of CD3+ large granular lymphocytes expressing T cell receptor-gamma/delta. Evidence for a functional receptor by anti-CD3 activation of cytolysis, *J. Immunol.*, *140*: 2527-1533, 1988.
- 72 Loke, S.L., Neckers, L.M., Schwab, G. and Jaffe, E.S. c-myc protein in normal tissue. Effects of fixation on its apparent subcellular distribution, *Am. J. Pathol.*, *131*: 29-37, 1988.
- 73 Neckers, L.M. and Nordan, R.P. Regulation of murine plasmacytoma transferrin receptor expression and G1 traversal by plasmacytoma cell growth factor, *J. Cell. Physiol.*, *135*: 495-501, 1988.

- 74 Neckers, L.M., Tsuda, H., Weiss, E. and Pluznik, D.H. Differential expression of c-myc and the transferrin receptor in G1 synchronized M1 myeloid leukemia cells, *J. Cell. Physiol.*, *135*: 339-344, 1988.
- 75 Stein, C.A., Mori, K., Loke, S.L., Subasinghe, C., Shinozuka, K., Cohen, J.S. and Neckers, L.M. Phosphorothioate and normal oligodeoxyribonucleotides with 5'-linked acridine: characterization and preliminary kinetics of cellular uptake, *Gene*, *72*: 333-341, 1988.
- 76 Tagliaferri, P., Katsaros, D., Clair, T., Ally, S., Tortora, G., Neckers, L., Rubalcava, B., Parandoosh, Z., Chang, Y.A., Revankar, G.R. Synergistic inhibition of growth of breast and colon human cancer cell lines by site-selective cyclic AMP analogues, *Cancer Res.*, *48*: 1642-1650, 1988.
- 77 Tagliaferri, P., Katsaros, D., Clair, T., Neckers, L., Robins, R.K. and Cho-Chung, Y.S. Reverse transformation of Harvey murine sarcoma virus-transformed NIH/3T3 cells by site-selective cyclic AMP analogs, *J. Biol. Chem.*, *263*: 409-416, 1988.
- 78 Tortora, G., Tagliaferri, P., Clair, T., Colamonici, O., Neckers, L.M., Robins, R.K. and Cho-Chung, Y.S. Site-selective cAMP analogs at micromolar concentrations induce growth arrest and differentiation of acute promyelocytic, chronic myelocytic, and acute lymphocytic human leukemia cell lines, *Blood*, *71*: 230-233, 1988.
- 79 Vidal, C., Matsushita, S., Colamonici, O.R., Trepel, J.B., Mitsuya, H. and Neckers, L.M. Human T lymphotropic virus I infection deregulates surface expression of the transferrin receptor, *J. Immunol.*, *141*: 984-988, 1988.
- 80 Cazenave, C., Stein, C.A., Loreau, N., Thuong, N.T., Neckers, L.M., Subasinghe, C., Helene, C., Cohen, J.S. and Toulme, J.J. Comparative inhibition of rabbit globin mRNA translation by modified antisense oligodeoxynucleotides, *Nucleic Acids Res.*, *17*: 4255-4273, 1989.
- 81 Cho-Chung, Y.S., Clair, T., Tagliaferri, P., Ally, S., Katsaros, D., Tortora, G., Neckers, L., Avery, T.L., Crabtree, G.W. and Robins, R.K. Site-selective cyclic AMP analogs as new biological tools in growth control, differentiation, and proto-oncogene regulation, *Cancer Invest*, *7*: 161-177, 1989.
- 82 de Villartay, J.P., Pullman, A.B., Andrade, R., Tschachler, E., Colamenici, O., Neckers, L., Cohen, D.I. and Cossman, J. Gamma/delta lineage relationship within a consecutive series of human precursor T-cell neoplasms, *Blood*, *74*: 2508-2518, 1989.
- 83 Loke, S.L., Stein, C.A., Zhang, X.H., Mori, K., Nakanishi, M., Subasinghe, C., Cohen, J.S. and Neckers, L.M. Characterization of oligonucleotide transport into living cells, *Proc. Natl. Acad. Sci. U.S.A.*, *86*: 3474-3478, 1989.
- 84 Rosolen, A., Nakanishi, M., Poplack, D., Cole, D., Quinones, R., Reaman, G., Cotelingam, J.D., Trepel, J.B., Sausville, E.A., Marti, G.E., Jaffe, E.S., Neckers, L.M.

- and Colamonici, O.R. Expression of interleukin-2 receptor beta subunit in hematopoietic malignancies, *Blood*, 73: 1986-1972, 1989.
- 85 Tortora, G., Clair, T., Katsaros, D., Ally, S., Colamonici, O., Neckers, L.M., Tagliaferri, P., Jahnsen, T., Robins, R.K. and Cho-Chung, Y.S. Induction of megakaryocytic differentiation and modulation of protein kinase gene expression by site-selective cAMP analogs in K-562 human leukemic cells, *Proc. Natl. Acad. Sci.U.S.A.*, 86: 2849-2852, 1989.
 - 86 Colamonici, O.R., D'Alessandro, F., Diaz, M.O., Gregory, S.A., Neckers, L.M. and Nordan, R. Characterization of three monoclonal antibodies that recognize the interferon alpha 2 receptor, *Proc.Natl.Acad.Sci.U.S.A.*, 87: 7230-7234, 1990.
 - 87 Colamonici, O.R., Neckers, L.M. and Rosolen,A. Putative gamma-subunit of the IL-2 receptor is detected in low, intermediate, and high affinity IL-2 receptor-bearing cells, *J. Immunol.*, 145: 155-160, 1990.
 - 88 McManaway, M.E., Neckers, L.M., Loke, S.L., al-Nasser, A.A., Redner, R.L., Shiramizu, B.T., Goldschmidts, W.L., Huber, B.E., Bhatia, K. and Magrath, I.T. Tumour-specific inhibition of lymphoma growth by an antisense oligodeoxynucleotide, *Lancet*, 335: 808-811, 1990.
 - 89 Rosolen, A., Whitesell, L., Ikegaki, N., Kennett, R.H. and Neckers, L.M. Antisense inhibition of single copy N-myc expression results in decreased cell growth without reduction of c-myc protein in a neuroepithelioma cell line, *Cancer Res.*, 50: 6316-6322, 1990.
 - 90 Rosolen, A., Whitesell, L., Ikegaki, N., Kennett, R. and Neckers, L.M. Antisense inhibition of N-myc reduces cell growth but does not affect c-myc expression in the neuroepithelioma cell line CHP100, *Prog. Clin. Biol. Res.*, 366: 29-36, 1991.
 - 91 Schwab, G., Siegall, C.B., Aarden, L.A., Neckers, L.M. and Nordan, R.P. Characterization of an interleukin-6-mediated autocrine growth loop in the human multiple myeloma cell line, U266, *Blood*, 77: 587-593, 1991.
 - 92 Stein, C.A., Neckers, L.M., Nair, B.C., Mumbauer, S., Hoke, G. and Pal, R. Phosphorothioate oligodeoxycytidine interferes with binding of HIV-1 gp120 to CD4, *J. Acquir. Immune Defic. Syndr.*, 4: 686-693, 1991.
 - 93 Whitesell, L., Rosolen, A. and Neckers, L.M. Antisense suppression of N-myc expression inhibits the transdifferentiation of neuroectoderm tumor cell lines, *Prog. Clin. Biol. Res.*, 366: 45-54, 1991.
 - 94 Whitesell, L., Rosolen, A. and Neckers, L.M. In vivo modulation of N-myc expression by continuous perfusion with an antisense oligonucleotide, *Antisense Res. Dev.*, 1: 343-350, 1991.

- 95 Whitesell, L., Rosolen, A. and Neckers, L.M. Episome-generated N-myc antisense RNA restricts the differentiation potential of primitive neuroectodermal cell lines, *Mol. Cell Biol.*, *11*: 1360-1371, 1991.
- 96 Geselowitz, D.A., Olson, L.D. and Neckers, L.M. Incorporation of radiophosphorus from labeled oligodeoxynucleotides into RNA of mycoplasma in cell cultures, *Antisense Res. Dev.*, *2*: 41-49, 1992.
- 97 Geselowitz, D.A. and Neckers, L.M. Analysis of oligonucleotide binding, internalization, and intracellular trafficking utilizing a novel radiolabeled crosslinker, *Antisense Res. Dev.*, *2*: 17-25, 1992.
- 98 Neckers, L., Rosolen, A., Fahmy, B. and Whitesell, L. Specific inhibition of oncogene expression in vitro and in vivo by antisense oligonucleotides, *Ann. N.Y. Acad. Sci.*, *660*: 37-44, 1992.
- 99 Neckers, L.M., Rosolen, A. and Whitesell, L. Antisense inhibition of gene expression: a tool for studying the role of NMYC in the growth and differentiation of neuroectoderm-derived cells, *J. Immunother.*, *12*: 162-166, 1992.
- 100 Roper, M., Smith, M.A., Sondel, P.M., Gillespie, A., Reaman, G.H., Hammond, G.D., Levitt, D., Rosolen, A., Colamonici, O.R., Neckers, L.M. and Poplack, D. A phase I study of interleukin-2 in children with cancer, *Am. J. Pediatr. Hematol. Oncol.*, *14*: 305-311, 1992.
- 101 Rosolen, A., Colamonici, O.R., Pfeffer, L.M., Whitesell, L., Nordan, R. and Neckers, L.M. Detection of functional interferon alpha receptors in human neuroendocrine tumor cell lines using a new monoclonal antibody, *Eur. Cytokine Netw.*, *3*: 81-88, 1992.
- 102 Whitesell, L., Shifrin, S.D., Schwab, G. and Neckers, L.M. Benzoquinonoid ansamycins possess selective tumoricidal activity unrelated to src kinase inhibition, *Cancer Res.*, *52*: 1721-1728, 1992.
- 103 Bergan, R., Connell, Y., Fahmy, B. and Neckers, L. Electroporation enhances c-myc antisense oligodeoxynucleotide efficacy, *Nucleic Acids Res.*, *21*: 3567-3573, 1993.
- 104 Blagosklonny, M.V. and Neckers, L.M. Sensitive and simple bioassay for human tumour necrosis factor-alpha, *Eur. Cytokine Netw.*, *4*: 279-283, 1993.
- 105 Rosolen, A., Kyle, E., Chavany, C., Bergan, R., Kalman, E.T., Crouch, R. and Neckers, L. Effect of over-expression of bacterial ribonuclease H on the utility of antisense MYC oligodeoxynucleotides in the monocytic leukemia cell line U937, *Biochimie*, *75*: 79-87, 1993.
- 106 Sandlund, J.T., Neckers, L.M., Schneller, H.E., Woodruff, L.S. and Magrath, I.T. Theophylline induced differentiation provides direct evidence for the deregulation of c-myc in Burkitt's lymphoma and suggests participation of immunoglobulin enhancer sequences, *Cancer Res.*, *53*: 127-132, 1993.

- 107 Whitesell, L., Geselowitz, D., Chavany, C., Fahmy, B., Walbridge, S., Alger, J.R. and Neckers, L.M. Stability, clearance, and disposition of intraventricularly administered oligodeoxynucleotides: implications for therapeutic application within the central nervous system, *Proc. Natl. Acad. Sci. U.S.A.*, *90*: 4665-4669, 1993.
- 108 Bergan, R., Connell, Y., Fahmy, B., Kyle, E. and Neckers, L. Aptameric inhibition of p210bcr-abl tyrosine kinase autophosphorylation by oligodeoxynucleotides of defined sequence and backbone structure, *Nucleic Acids Res.*, *22*: 2150-2154, 1994.
- 109 Blagosklonny, M.V. and Neckers, L.M. Oligonucleotides protect cells from the cytotoxicity of several anti-cancer chemotherapeutic drugs, *Anticancer Drugs*, *5*: 437-442, 1994.
- 110 Blagosklonny, M.V. and Neckers, L.M. Cytostatic and cytotoxic activity of sex steroids against human leukemia cell lines, *Cancer Lett.*, *76*: 81-86, 1994.
- 111 Reddy, S.V., Takahashi, S., Dallas, M., Williams, R.E., Neckers, L. and Roodman, G.D. Interleukin-6 antisense deoxyoligonucleotides inhibit bone resorption by giant cells from human giant cell tumors of bone, *J. Bone Miner. Res.*, *9*: 753-757, 1994.
- 112 Rosolen, A., Toretzky, J. and Neckers, L. Antisense inhibition of CHP100 C-myc expression results in reduced in vitro growth kinetics and loss of in vivo tumorigenesis, *Prog. Clin. Biol. Res.*, *385*: 95-101, 1994.
- 113 Whitesell, L., Mimnaugh, E.G., DeCosta, B., Myers, C.E. and Neckers, L.M. Inhibition of heat shock protein HSP90-pp60v-src heteroprotein complex formation by benzoquinone ansamycins: essential role for stress proteins in oncogenic transformation, *Proc. Natl. Acad. Sci. U.S.A.*, *91*: 8324-8328, 1994.
- 114 Bergan, R.C., Kyle, E., Connell, Y. and Neckers, L. Inhibition of protein-tyrosine kinase activity in intact cells by the aptameric action of oligodeoxynucleotides, *Antisense Res. Dev.*, *5*: 33-38, 1995.
- 115 Blagosklonny, M.V. and Neckers, L.M. The role of Bcl-2 protein and autocrine growth factors in a human follicular lymphoma-derived B cell line, *Eur. Cytokine Netw.*, *6*: 21-27, 1995.
- 116 Blagosklonny, M.V., Toretzky, J. and Neckers, L. Geldanamycin selectively destabilizes and conformationally alters mutated p53, *Oncogene*, *11*: 933-939, 1995.
- 117 Blagosklonny, M.V., Schulte, T.W., Nguyen, P., Mimnaugh, E.G., Trepel, J. and Neckers, L. Taxol induction of p21WAF1 and p53 requires c-raf-1, *Cancer Res.*, *55*: 4623-4626, 1995.
- 118 Blagosklonny, M.V., Alvarez, M., Fojo, A. and Neckers, L.M. Bcl-2 protein down-regulation is not required for differentiation of multi-drug resistant HL60 leukemia cells, *Leukemia Res.*, *20*: 101-107, 1995.

- 119 Chavany, C., Connell, Y. and Neckers, L. Contribution of sequence and phosphorothioate content to inhibition of cell growth and adhesion caused by c-myc antisense oligomers, *Mol. Pharmacol.*, *48*: 738-746, 1995.
- 120 Geselowitz, D.A. and Neckers, L.M. Bovine serum albumin is a major oligonucleotide-binding protein found on the surface of cultured cells, *Antisense Res. Dev.*, *5*: 213-217, 1995.
- 121 Hertl, M., Neckers, L.M. and Katz, S.I. Inhibition of interferon-gamma-induced intercellular adhesion molecule-1 expression on human keratinocytes by phosphorothioate antisense oligodeoxynucleotides is the consequence of antisense-specific and antisense-non-specific effects, *J. Invest. Dermatol.*, *104*: 813-818, 1995.
- 122 Mimnaugh, E.G., Worland, P.J., Whitesell, L. and Neckers, L.M. Possible role for serine/threonine phosphorylation in the regulation of the heteroprotein complex between the hsp90 stress protein and the pp60v-src tyrosine kinase, *J. Biol. Chem.*, *270*: 28654-28659, 1995.
- 123 Rosolen, A., Toretsky, J., Farascella, E. and Neckers, L.M. Episome generated MYC antisense RNA inhibits growth and tumorigenicity of a human neuroendocrine tumor cell line, *Int. J. Oncol.*, *6*: 175-179, 1995.
- 124 Schulte, T.W., Blagosklonny, M.V., Ingui, C. and Neckers, L. Disruption of the Raf-1-Hsp90 molecular complex results in destabilization of Raf-1 and loss of Raf-1-Ras association, *J. Biol. Chem.*, *270*: 24585-24588, 1995.
- 125 Toretsky, J.A., Neckers, L. and Wexler, L.H. Detection of (11;22)(q24;q12) translocation-bearing cells in peripheral blood progenitor cells of patients with Ewing's sarcoma family of tumors, *J. Natl. Cancer Inst.*, *87*: 385-386, 1995.
- 126 Bergan, R., Hakim, F., Schwartz, G.N., Kyle, E., Cepada, R., Szabo, J.M., Fowler, D., Gress, R. and Neckers, L. Electroporation of synthetic oligodeoxynucleotides: a novel technique for ex vivo bone marrow purging, *Blood*, *88*: 731-741, 1996.
- 127 Bergan, R. and Neckers, L. How do antisense oligodeoxynucleotides inhibit the growth of chronic myelogenous leukemia cells?, *Blood*, *87*: 4019-4020, 1996.
- 128 Bergan, R., Kyle, E., Nguyen, P., Trepel, J., Ingui, C. and Neckers, L. Genistein-stimulated adherence of prostate cancer cells is associated with the binding of focal adhesion kinase to beta-1-integrin, *Clin. Exp. Metastasis*, *14*: 389-398, 1996.
- 129 Blagosklonny, M.V., Alvarez, M., Fojo, A. and Neckers, L.M. Bcl-2 protein downregulation is not required for differentiation of multidrug resistant HL60 leukemia cells, *Leuk. Res.*, *20*: 101-107, 1996.
- 130 Blagosklonny, M.V., Schulte, T., Nguyen, P., Trepel, J. and Neckers, L.M. Taxol-induced apoptosis and phosphorylation of Bcl-2 protein involves c-Raf-1 and represents a novel c-Raf-1 signal transduction pathway, *Cancer Res.*, *56*: 1851-1854, 1996.

- 131 Blagosklonny, M.V., Toretsky, J., Bohen, S. and Neckers, L. Mutant conformation of p53 translated in vitro or in vivo requires functional HSP90, *Proc. Natl. Acad. Sci. U.S.A.*, *93*: 8379-8383, 1996.
- 132 Chavany, C., Mimnaugh, E., Miller, P., Bitton, R., Nguyen, P., Trepel, J., Whitesell, L., Schnur, R., Moyer, J. and Neckers, L. p185erbB2 binds to GRP94 in vivo. Dissociation of the p185erbB2/GRP94 heterocomplex by benzoquinone ansamycins precedes depletion of p185erbB2, *J. Biol. Chem.*, *271*: 4974-4977, 1996.
- 133 Mimnaugh, E.G., Chavany, C. and Neckers, L. Polyubiquitination and proteasomal degradation of the p185c-erbB-2 receptor protein-tyrosine kinase induced by geldanamycin, *J. Biol. Chem.*, *271*: 22796-22801, 1996.
- 134 Schulte, T.W., Blagosklonny, M.V., Romanova, L., Mushinski, J.F., Monia, B.P., Johnston, J.F., Nguyen, P., Trepel, J. and Neckers, L.M. Destabilization of Raf-1 by geldanamycin leads to disruption of the Raf-1-MEK-mitogen-activated protein kinase signalling pathway, *Mol. Cell Biol.*, *16*: 5839-5845, 1996.
- 135 An, W.G., Schnur, R.C., Neckers, L. and Blagosklonny, M.V. Depletion of p185erbB2, Raf-1 and mutant p53 proteins by geldanamycin derivatives correlates with antiproliferative activity, *Cancer Chemother. Pharmacol.*, *40*: 60-64, 1997.
- 136 Blagosklonny, M.V., Giannakakou, P., El-Deiry, W.S., Kingston, D.G., Higgs, P.I., Neckers, L. and Fojo, T. Raf-1/bcl-2 phosphorylation: a step from microtubule damage to cell death, *Cancer Res.*, *57*: 130-135, 1997.
- 137 Grenert, J.P., Sullivan, W.P., Fadden, P., Haystead, T.A., Clark, J., Mimnaugh, E., Krutzsch, H., Ochel, H.J., Schulte, T.W., Sausville, E., Neckers, L.M. and Toft, D.O. The amino-terminal domain of heat shock protein 90 (hsp90) that binds geldanamycin is an ATP/ADP switch domain that regulates hsp90 conformation, *J. Biol. Chem.*, *272*: 23843-23850, 1997.
- 138 Kyle, E., Neckers, L., Takimoto, C., Curt, G. and Bergan, R. Genistein-induced apoptosis of prostate cancer cells is preceded by a specific decrease in focal adhesion kinase activity, *Mol. Pharmacol.*, *51*: 193-200, 1997.
- 139 Mimnaugh, E.G., Chen, H.Y., Davie, J.R., Celis, J.E. and Neckers, L. Rapid deubiquitination of nucleosomal histones in human tumor cells caused by proteasome inhibitors and stress response inducers: effects on replication, transcription, translation, and the cellular stress response, *Biochemistry*, *36*: 14418-14429, 1997.
- 140 Schulte, T.W., An, W.G. and Neckers, L.M. Geldanamycin-induced destabilization of Raf-1 involves the proteasome, *Biochem. Biophys. Res. Commun.*, *239*: 655-659, 1997.
- 141 Schulte, T.W., Toretsky, J.A., Ress, E., Helman, L. and Neckers, L.M. Expression of PAX3 in Ewing's sarcoma family of tumors, *Biochem. Mol. Med.*, *60*: 121-126, 1997.

- 142 Toretzky, J.A., Connell, Y., Neckers, L. and Bhat, N.K. Inhibition of EWS-FLI-1 fusion protein with antisense oligodeoxynucleotides, *J. Neurooncol.*, *31*: 9-16, 1997.
- 143 Whitesell, L., Sutphin, P., An, W.G., Schulte, T., Blagosklonny, M.V. and Neckers, L. Geldanamycin-stimulated destabilization of mutated p53 is mediated by the proteasome in vivo, *Oncogene*, *14*: 2809-2816, 1997.
- 144 An, W.G., Kanekal, M., Simon, M.C., Maltepe, E., Blagosklonny, M.V. and Neckers, L.M. Stabilization of wild-type p53 by hypoxia-inducible factor 1alpha, *Nature*, *392*: 405-408, 1998.
- 145 Blagosklonny, M.V., An, W.G., Romanova, L.Y., Trepel, J., Fojo, T. and Neckers, L. p53 inhibits hypoxia-inducible factor-stimulated transcription, *J. Biol. Chem.*, *273*: 11995-11998, 1998.
- 146 Bonvini, P., Nguyen, P., Trepel, J. and Neckers, L.M. In vivo degradation of N-myc in neuroblastoma cells is mediated by the 26S proteasome, *Oncogene*, *16*: 1131-1139, 1998.
- 147 Neckers, L.M. Oligodeoxynucleotide inhibitors of function: mRNA and protein interactions, *Cancer J. Sci. Am.*, *4 Suppl 1*: S35-S42, 1998.
- 148 Neckers, L.M., Kanekal, M. and Connell, Y. Non-antisense oligonucleotide approaches for experimental treatment of glioblastoma, *Antisense Nucleic Acid Drug Dev.*, *8*: 177-179, 1998.
- 149 Schulte, T.W. and Neckers, L.M. The benzoquinone ansamycin 17-allylamino-17-demethoxygeldanamycin binds to HSP90 and shares important biologic activities with geldanamycin, *Cancer Chemother. Pharmacol.*, *42*: 273-279, 1998.
- 150 Schulte, T.W., Akinaga, S., Soga, S., Sullivan, W., Stensgard, B., Toft, D. and Neckers, L.M. Antibiotic radicicol binds to the N-terminal domain of Hsp90 and shares important biologic activities with geldanamycin, *Cell Stress. Chaperones.*, *3*: 100-108, 1998.
- 151 Blagosklonny, M.V., An, W.G., Melillo, G., Nguyen, P., Trepel, J.B. and Neckers, L.M. Regulation of BRCA1 by protein degradation, *Oncogene*, *18*: 6460-6468, 1999.
- 152 Mimnaugh, E.G., Bonvini, P. and Neckers, L. The measurement of ubiquitin and ubiquitinated proteins, *Electrophoresis*, *20*: 418-428, 1999.
- 153 Neckers, L., Mimnaugh, E. and Schulte, T.W. Hsp90 as an anti-cancer target, *Drug Resist. Updat.*, *2*: 165-172, 1999.
- 154 Neckers, L., Schulte, T.W. and Mimnaugh, E. Geldanamycin as a potential anti-cancer agent: its molecular target and biochemical activity, *Invest New Drugs*, *17*: 361-373, 1999.

- 155 Ochel, H.J., Schulte, T.W., Nguyen, P., Trepel, J. and Neckers, L. The benzoquinone ansamycin geldanamycin stimulates proteolytic degradation of focal adhesion kinase, *Mol. Genet. Metab.*, *66*: 24-30, 1999.
- 156 Schulte, T.W., Akinaga, S., Murakata, T., Agatsuma, T., Sugimoto, S., Nakano, H., Lee, Y.S., Simen, B.B., Argon, Y., Felts, S., Toft, D.O., Neckers, L.M. and Sharma, S.V. Interaction of radicicol with members of the heat shock protein 90 family of molecular chaperones, *Mol. Endocrinol.*, *13*: 1435-1448, 1999.
- 157 Soga, S., Neckers, L.M., Schulte, T.W., Shiotsu, Y., Akasaka, K., Narumi, H., Agatsuma, T., Ikuina, Y., Murakata, C., Tamaoki, T. and Akinaga, S. KF25706, a novel oxime derivative of radicicol, exhibits in vivo antitumor activity via selective depletion of Hsp90 binding signaling molecules, *Cancer Res.*, *59*: 2931-2938, 1999.
- 158 An, W.G., Schulte, T.W. and Neckers, L.M. The heat shock protein 90 antagonist geldanamycin alters chaperone association with p210bcr-abl and v-src proteins before their degradation by the proteasome, *Cell Growth Differ.*, *11*: 355-360, 2000.
- 159 Bonvini, P., Hwang, S.G., El-Gamil, M., Robbins, P., Kim, J.S., Trepel, J. and Neckers, L. Nuclear beta-catenin displays GSK-3beta- and APC-independent proteasome sensitivity in melanoma cells, *Biochim. Biophys. Acta*, *1495*: 308-318, 2000.
- 160 Garayoa, M., Martinez, A., Lee, S., Pio, R., An, W.G., Neckers, L., Trepel, J., Montuenga, L.M., Ryan, H., Johnson, R., Gassmann, M. and Cuttitta, F. Hypoxia-inducible factor-1 (HIF-1) up-regulates adrenomedullin expression in human tumor cell lines during oxygen deprivation: a possible promotion mechanism of carcinogenesis, *Mol. Endocrinol.*, *14*: 848-862, 2000.
- 161 Lewis, J., Devin, A., Miller, A., Lin, Y., Rodriguez, Y., Neckers, L. and Liu, Z.G. Disruption of hsp90 function results in degradation of the death domain kinase, receptor-interacting protein (RIP), and blockage of tumor necrosis factor-induced nuclear factor-kappaB activation, *J. Biol. Chem.*, *275*: 10519-10526, 2000.
- 162 Marcu, M.G., Schulte, T.W. and Neckers, L. Novobiocin and related coumarins and depletion of heat shock protein 90-dependent signaling proteins, *J. Natl. Cancer Inst.*, *92*: 242-248, 2000.
- 163 Marcu, M.G., Chadli, A., Bouhouche, I., Catelli, M. and Neckers, L.M. The heat shock protein 90 antagonist novobiocin interacts with a previously unrecognized ATP-binding domain in the carboxyl terminus of the chaperone, *J. Biol. Chem.*, *275*: 37181-37186, 2000.
- 164 Mimnaugh, E.G., Yunmbam, M.K., Li, Q., Bonvini, P., Hwang, S.G., Trepel, J., Reed, E. and Neckers, L. Prevention of cisplatin-DNA adduct repair and potentiation of cisplatin-induced apoptosis in ovarian carcinoma cells by proteasome inhibitors, *Biochem. Pharmacol.*, *60*: 1343-1354, 2000.

- 165 Neckers, L. Effects of geldanamycin and other naturally occurring small molecule antagonists of heat shock protein 90 on HER2 protein expression, *Breast Dis.*, *11*: 49-59, 2000.
- 166 Shiotsu, Y., Neckers, L.M., Wortman, I., An, W.G., Schulte, T.W., Soga, S., Murakata, C., Tamaoki, T. and Akinaga, S. Novel oxime derivatives of radicicol induce erythroid differentiation associated with preferential G(1) phase accumulation against chronic myelogenous leukemia cells through destabilization of Bcr-Abl with Hsp90 complex, *Blood*, *96*: 2284-2291, 2000.
- 167 Agnew, E.B., Wilson, R.H., Grem, J.L., Neckers, L., Bi, D. and Takimoto, C.H. Measurement of the novel antitumor agent 17-(allylamino)-17-demethoxygeldanamycin in human plasma by high-performance liquid chromatography, *J. Chromatogr. B Biomed. Sci. Appl.*, *755*: 237-243, 2001.
- 168 Blagosklonny, M.V., Fojo, T., Bhalla, K.N., Kim, J.S., Trepel, J.B., Figg, W.D., Rivera, Y. and Neckers, L.M. The Hsp90 inhibitor geldanamycin selectively sensitizes Bcr-Abl-expressing leukemia cells to cytotoxic chemotherapy, *Leukemia*, *15*: 1537-1543, 2001.
- 169 Bonvini, P., An, W.G., Rosolen, A., Nguyen, P., Trepel, J., Garcia de, H.A., Dunach, M. and Neckers, L.M. Geldanamycin abrogates ErbB2 association with proteasome-resistant beta-catenin in melanoma cells, increases beta-catenin-E-cadherin association, and decreases beta-catenin-sensitive transcription, *Cancer Res.*, *61*: 1671-1677, 2001.
- 170 Casibang, M., Purdom, S., Jakowlew, S., Neckers, L., Zia, F., Ben-Av, P., Hla, T., You, L., Jablons, D.M. and Moody, T.W. Prostaglandin E2 and vasoactive intestinal peptide increase vascular endothelial cell growth factor mRNAs in lung cancer cells, *Lung Cancer*, *31*: 203-212, 2001.
- 171 Isaacs, J.S., Saito, S. and Neckers, L.M. Requirement for HDM2 activity in the rapid degradation of p53 in neuroblastoma, *J. Biol. Chem.*, *276*: 18497-18506, 2001.
- 172 Li, Q.Q., Yunmbam, M.K., Zhong, X., Yu, J.J., Mimnaugh, E.G., Neckers, L. and Reed, E. Lactacystin enhances cisplatin sensitivity in resistant human ovarian cancer cell lines via inhibition of DNA repair and ERCC-1 expression, *Cell Mol. Biol. (Noisy.-le-grand)*, *47 Online Pub*: OL61-OL72, 2001.
- 173 Mimnaugh, E.G., Kayastha, G., McGovern, N.B., Hwang, S.G., Marcu, M.G., Trepel, J., Cai, S.Y., Marchesi, V.T. and Neckers, L. Caspase-dependent deubiquitination of monoubiquitinated nucleosomal histone H2A induced by diverse apoptogenic stimuli, *Cell Death. Differ.*, *8*: 1182-1196, 2001.
- 174 Soga, S., Sharma, S.V., Shiotsu, Y., Shimizu, M., Tahara, H., Yamaguchi, K., Ikuina, Y., Murakata, C., Tamaoki, T., Kurebayashi, J., Schulte, T.W., Neckers, L.M. and Akinaga, S. Stereospecific antitumor activity of radicicol oxime derivatives, *Cancer Chemother. Pharmacol.*, *48*: 435-445, 2001.

- 175 Xu, W., Mimnaugh, E., Rosser, M.F., Nicchitta, C., Marcu, M., Yarden, Y. and Neckers, L. Sensitivity of mature ErbB2 to geldanamycin is conferred by its kinase domain and is mediated by the chaperone protein Hsp90, *J. Biol. Chem.*, 276: 3702-3708, 2001.
- 176 Yunmbam, M.K., Li, Q.Q., Mimnaugh, E.G., Kayastha, G.L., Yu, J.J., Jones, L.N., Neckers, L. and Reed, E. Effect of the proteasome inhibitor ALLnL on cisplatin sensitivity in human ovarian tumor cells, *Int. J. Oncol.*, 19: 741-748, 2001.
- 177 Citri, A., Alroy, I., Lavi, S., Rubin, C., Xu, W., Grammatikakis, N., Patterson, C., Neckers, L., Fry, D.W. and Yarden, Y. Drug-induced ubiquitylation and degradation of ErbB receptor tyrosine kinases: implications for cancer therapy, *EMBO J.*, 21: 2407-2417, 2002.
- 178 Isaacs, J.S., Jung, Y.J., Mimnaugh, E.G., Martinez, A., Cuttitta, F. and Neckers, L.M. Hsp90 regulates a von Hippel Lindau-independent hypoxia-inducible factor-1 alpha-degradative pathway, *J. Biol. Chem.*, 277: 29936-29944, 2002.
- 179 Marcu, M.G., Doyle, M., Bertolotti, A., Ron, D., Hendershot, L. and Neckers, L. Heat shock protein 90 modulates the unfolded protein response by stabilizing IRE1alpha, *Mol. Cell Biol.*, 22: 8506-8513, 2002.
- 180 Neckers, L. Heat shock protein 90 is a rational molecular target in breast cancer, *Breast Dis.*, 15: 53-60, 2002.
- 181 Xu, W., Marcu, M., Yuan, X., Mimnaugh, E., Patterson, C. and Neckers, L. Chaperone-dependent E3 ubiquitin ligase CHIP mediates a degradative pathway for c-ErbB2/Neu, *Proc. Natl. Acad. Sci. U.S.A.*, 99: 12847-12852, 2002.
- 182 Xu, W., Mimnaugh, E.G., Kim, J.S., Trepel, J.B. and Neckers, L.M. Hsp90, not Grp94, regulates the intracellular trafficking and stability of nascent ErbB2, *Cell Stress Chaperones*, 7: 91-96, 2002.
- 183 Yu, X., Guo, Z.S., Marcu, M.G., Neckers, L., Nguyen, D.M., Chen, G.A. and Schrupp, D.S. Modulation of p53, ErbB1, ErbB2, and Raf-1 expression in lung cancer cells by depsipeptide FR901228, *J. Natl. Cancer Inst.*, 94: 504-513, 2002.
- 184 Bisht, K.S., Bradbury, C.M., Mattson, D., Kaushal, A., Sowers, A., Markovina, S., Ortiz, K.L., Sieck, L.K., Isaacs, J.S., Brechbiel, M.W., Mitchell, J.B., Neckers, L.M. and Gius, D. Geldanamycin and 17-allylamino-17-demethoxygeldanamycin potentiate the in vitro and in vivo radiation response of cervical tumor cells via the heat shock protein 90-mediated intracellular signaling and cytotoxicity, *Cancer Res.*, 63: 8984-8995, 2003.
- 185 Chiosis, G., Huezo, H., Rosen, N., Mimnaugh, E., Whitesell, L. and Neckers, L. 17AAG: low target binding affinity and potent cell activity--finding an explanation, *Mol. Cancer Ther.*, 2: 123-129, 2003.
- 186 Dai, Q., Zhang, C., Wu, Y., McDonough, H., Whaley, R.A., Godfrey, V., Li, H.H., Madamanchi, N., Xu, W., Neckers, L., Cyr, D. and Patterson, C. CHIP activates HSF1

- and confers protection against apoptosis and cellular stress, *EMBO J.*, 22: 5446-5458, 2003.
- 187 Jung, Y., Isaacs, J.S., Lee, S., Trepel, J., Liu, Z.G. and Neckers, L. Hypoxia-inducible factor induction by tumour necrosis factor in normoxic cells requires receptor-interacting protein-dependent nuclear factor kappa B activation, *Biochem. J.*, 370: 1011-1017, 2003.
 - 188 Jung, Y.J., Isaacs, J.S., Lee, S., Trepel, J. and Neckers, L. IL-1beta-mediated up-regulation of HIF-1alpha via an NFkappaB/COX-2 pathway identifies HIF-1 as a critical link between inflammation and oncogenesis, *FASEB J.*, 17: 2115-2117, 2003.
 - 189 Jung, Y.J., Isaacs, J.S., Lee, S., Trepel, J. and Neckers, L. Microtubule disruption utilizes an NFkappa B-dependent pathway to stabilize HIF-1alpha protein, *J. Biol. Chem.*, 278: 7445-7452, 2003.
 - 190 Jung, Y.J., Isaacs, J.S., Lee, S., Trepel, J.B., Liu, Z.G. and Neckers, L.M. HIF-1alpha induction by TNF-alpha in normoxic cells requires RIP-dependent NFkB activation, *Biochem. J.*, 370: 1011-1017, 2003.
 - 191 Nakamura, M., Matsuo, T., Stauffer, J., Neckers, L. and Thiele, C.J. Retinoic acid decreases targeting of p27 for degradation via an N-myc-dependent decrease in p27 phosphorylation and an N-myc-independent decrease in Skp2, *Cell Death. Differ.*, 10: 230-239, 2003.
 - 192 Neckers, L. Development of small molecule Hsp90 inhibitors: utilizing both forward and reverse chemical genomics for drug identification, *Curr. Med. Chem.*, 10: 733-739, 2003.
 - 193 Neckers, L. and Lee, Y.S. Cancer: the rules of attraction, *Nature*, 425: 357-359, 2003.
 - 194 Ochel, H.J., Gademann, G., Trepel, J. and Neckers, L. Modulation of prion protein structural integrity by geldanamycin, *Glycobiology*, 13: 655-660, 2003.
 - 195 Xu, W., Yuan, X., Jung, Y.J., Yang, Y., Basso, A., Rosen, N., Chung, E.J., Trepel, J. and Neckers, L. The heat shock protein 90 inhibitor geldanamycin and the ErbB inhibitor ZD1839 promote rapid PP1 phosphatase-dependent inactivation of AKT in ErbB2 overexpressing breast cancer cells, *Cancer Res.*, 63: 7777-7784, 2003.
 - 196 Akin, C., Fumo, G., Yavuz, A.S., Lipsky, P.E., Neckers, L. and Metcalfe, D.D. A novel form of mastocytosis associated with a transmembrane c-kit mutation and response to imatinib, *Blood*, 103: 3222-3225, 2004.
 - 197 Eustace, B.K., Sakurai, T., Stewart, J.K., Yimlamai, D., Unger, C., Zehetmeier, C., Lain, B., Torella, C., Henning, S.W., Beste, G., Scroggins, B.T., Neckers, L., Ilag, L.L. and Jay, D.G. Functional proteomic screens reveal an essential extracellular role for hsp90 alpha in cancer cell invasiveness, *Nat. Cell Biol.*, 6: 507-514, 2004.

- 198 Fumo, G., Akin, C., Metcalfe, D.D. and Neckers, L. 17-Allylamino-17-demethoxygeldanamycin (17-AAG) is effective in down-regulating mutated, constitutively activated KIT protein in human mast cells, *Blood*, *103*: 1078-1084, 2004.
- 199 Isaacs, J.S., Jung, Y.J. and Neckers, L. Aryl hydrocarbon nuclear translocator (ARNT) promotes oxygen-independent stabilization of hypoxia-inducible factor-1alpha by modulating an Hsp90-dependent regulatory pathway, *J. Biol. Chem.*, *279*: 16128-16135, 2004.
- 200 Kaufman, B., Scharf, O., Arbeit, J., Ashcroft, M., Brown, J.M., Bruick, R.K., Chapman, J.D., Evans, S.M., Giaccia, A.J., Harris, A.L., Huang, E., Johnson, R., Kaelin, W., Jr., Koch, C.J., Maxwell, P., Mitchell, J., Neckers, L., Powis, G., Rajendran, J., Semenza, G.L., Simons, J., Storkebaum, E., Welch, M.J., Whitelaw, M., Melillo, G. and Ivy, S.P. Proceedings of the Oxygen Homeostasis/Hypoxia Meeting, *Cancer Res.*, *64*: 3350-3356, 2004.
- 201 Lee, Y.S., Marcu, M.G. and Neckers, L. Quantum chemical calculations and mutational analysis suggest heat shock protein 90 catalyzes trans-cis isomerization of geldanamycin, *Chem. Biol.*, *11*: 991-998, 2004.
- 202 Mimnaugh, E.G., Xu, W., Vos, M., Yuan, X., Isaacs, J.S., Bisht, K.S., Gius, D. and Neckers, L. Simultaneous inhibition of hsp 90 and the proteasome promotes protein ubiquitination, causes endoplasmic reticulum-derived cytosolic vacuolization, and enhances antitumor activity, *Mol. Cancer Ther.*, *3*: 551-566, 2004.
- 203 Nielsen, T.O., Andrews, H.N., Cheang, M., Kucab, J.E., Hsu, F.D., Ragaz, J., Gilks, C.B., Makretsov, N., Bajdik, C.D., Brookes, C., Neckers, L.M., Evdokimova, V., Huntsman, D.G. and Dunn, S.E. Expression of the insulin-like growth factor I receptor and urokinase plasminogen activator in breast cancer is associated with poor survival: potential for intervention with 17-allylamino geldanamycin, *Cancer Res.*, *64*: 286-291, 2004.
- 204 Gotlib, J., Berube, C., Growney, J.D., Chen, C.C., George, T.I., Williams, C., Kajiguchi, T., Ruan, J., Lilleberg, S.L., Durocher, J.A., Lichy, J.H., Wang, Y., Cohen, P.S., Arber, D.A., Heinrich, M.C., Neckers, L., Galli, S.J., Gilliland, D.G. and Coutre, S.E. Activity of the tyrosine kinase inhibitor PKC412 in a patient with mast cell leukemia with the D816V KIT mutation, *Blood*, *106*: 2865-2870, 2005.
- 205 Grem, J.L., Morrison, G., Guo, X.D., Agnew, E., Takimoto, C.H., Thomas, R., Szabo, E., Grochow, L., Grollman, F., Hamilton, J.M., Neckers, L. and Wilson, R.H. Phase I and pharmacologic study of 17-(allylamino)-17-demethoxygeldanamycin in adult patients with solid tumors, *J. Clin. Oncol.*, *23*: 1885-1893, 2005.
- 206 Isaacs, J.S., Jung, Y.J., Mole, D.R., Lee, S., Torres-Cabala, C., Chung, Y.L., Merino, M., Trepel, J., Zbar, B., Toro, J., Ratcliffe, P.J., Linehan, W.M. and Neckers, L. HIF overexpression correlates with biallelic loss of fumarate hydratase in renal cancer: novel role of fumarate in regulation of HIF stability, *Cancer Cell*, *8*: 143-153, 2005.

- 207 Kim, H., Kong, H., Choi, B., Yang, Y., Kim, Y., Lim, M.J., Neckers, L. and Jung, Y. Metabolic and pharmacological properties of rutin, a dietary quercetin glycoside, for treatment of inflammatory bowel disease, *Pharm. Res.*, *22*: 1499-1509, 2005.
- 208 Wang, D., Xu, W., McGrath, S.C., Patterson, C., Neckers, L. and Cotter, R.J. Direct identification of ubiquitination sites on ubiquitin-conjugated CHIP using MALDI mass spectrometry, *J. Proteome Res.*, *4*: 1554-1560, 2005.
- 209 Wei, M.H., Toure, O., Glenn, G., Pithukpakom, M., Neckers, L.M., Stolle, C., Choyke, P., Grubb, R., Middleton, L., Turner, M.L., Walther, M.M., Merino, M., Zbar, B., Linehan, W.M. and Toro, J.R. Novel mutations in FH and expansion of the spectrum of phenotypes expressed in families with hereditary leiomyomatosis and renal cell cancer, *J. Med. Genet.*, *43*: 18-27, 2005.
- 210 Xu, W., Yuan, X., Xiang, Z., Mimnaugh, E., Marcu, M. and Neckers, L. Surface charge and hydrophobicity determine ErbB2 binding to the Hsp90 chaperone complex, *Nat. Struct. Mol. Biol.*, *12*: 120-126, 2005.
- 211 Yu, X.M., Shen, G., Neckers, L., Blake, H., Holzbeierlein, J., Cronk, B. and Blagg, B.S. Hsp90 inhibitors identified from a library of novobiocin analogues, *J. Am. Chem. Soc.*, *127*: 12778-12779, 2005.
- 212 Kim, H., Jeon, H., Kong, H., Yang, Y., Choi, B., Kim, Y.M., Neckers, L. and Jung, Y. A molecular mechanism for the anti-inflammatory effect of taurine-conjugated 5-aminosalicylic acid in inflamed colon, *Mol. Pharmacol.*, *69*: 1405-1412, 2006.
- 213 Koga, F., Xu, W., Karpova, T.S., McNally, J.G., Baron, R. and Neckers, L. Hsp90 inhibition transiently activates Src kinase and promotes Src-dependent Akt and Erk activation, *Proc. Natl. Acad. Sci. U.S.A.*, *103*: 11318-11322, 2006.
- 214 Marcu, M.G., Jung, Y.J., Lee, S., Chung, E.J., Lee, M.J., Trepel, J. and Neckers, L. Curcumin is an inhibitor of p300 histone acetyltransferase, *Med. Chem.*, *2*: 169-174, 2006.
- 215 Yang, Q., Kim, Y.S., Lin, Y., Lewis, J., Neckers, L. and Liu, Z.G. Tumour necrosis factor receptor 1 mediates endoplasmic reticulum stress-induced activation of the MAP kinase JNK, *EMBO Rep.*, *7*: 622-627, 2006.
- 216 Mimnaugh, E. G., Xu, W., Vos, M., Yuan, X., and Neckers, L. Endoplasmic reticulum vacuolization and valosin-containing protein relocalization result from simultaneous Hsp90 inhibition by geldanamycin and proteasome inhibition by Velcade, *Mol. Cancer Res.*, *4*: 667-681, 2006.
- 217 Burlison, J.A., Neckers, L., Smith, A.B., Maxwell, A., and Blagg, B.S.J. Novobiocin: Redesigning a DNA Gyrase Inhibitor for Selective Inhibition of Hsp90, *JACS*, *128*: 15529-15536, 2006.

- 218 Wei, M.H., Toure, O., Glenn, G.M., Pithukpakorn, M., Neckers, L., Stolle, C., Choyke, P., Grubb, R., Middleton, L., Turner, M.L., Walther, M.M., Merino, M.J., Zbar, B., Linehan, W.M., Toro, J.R. Novel mutations in FH and expansion of the spectrum of phenotypes expressed in families with hereditary leiomyomatosis and renal cell cancer. *J. Med. Genet.*, 43:18-27, 2006.
- 219 Jung, Y., Xu, W., Kim, H., Ha, N., and Neckers, L. Curcumin-induced degradation of ErbB2: A role for the E3 ubiquitin ligase CHIP and the Michael reaction acceptor activity of curcumin, *Biochem. Biophys. Acta (Mol Cancer Res)*, 1773: 383-390, 2007.
- 220 Xu, W., Yuan, X., Beebe, K., Xiang, Z., and Neckers, L. Loss of Hsp90 association up-regulates Src-dependent ErbB2 activity. *Mol Cell Biol*, 27:220-228, 2007.
- 221 Scroggins, B.T., Robzyk, K., Wang, D., Marcu, M.G., Tsutsumi, S., Beebe, K., Cotte, R.J., Felts, S., Toft, D., Karnitz, L., Rosen, N., and Neckers, L. An Acetylation Site in the Middle Domain of Hsp90 Regulates Chaperone Function. *Mol Cell*, 25:151-159, 2007.
- 222 Ansar, S., Burlison, J. A., Hadden, M. K., Yu, X. M., Desino, K. E., Bean, J., Neckers, L., Audus, K. L., Michaelis, M. L., and Blagg, B. S. A non-toxic Hsp90 inhibitor protects neurons from Abeta-induced toxicity. *Bioorg Med Chem Lett*, 17: 1984-1990, 2007.
- 223 Williams, C.R., Tabios, R., Linehan, W.M., and Neckers, L. Intratumoral injection of the Hsp90 inhibitor 17AAG decreases tumor growth and induces apoptosis in a prostate cancer xenograft model. *J. Urol.*, 178(4 Pt 1):1528-32, 2007.
- 224 Koga, F., Tsutsumi, S., and Neckers, L. Low dose geldanamycin inhibits hepatocyte growth factor and hypoxia-stimulated invasion of cancer cells. *Cell Cycle*, 6: 1393-1402, 2007.
- 225 Xu, W., Soga, S., Beebe, K., Lee, M.-J., Kim, Y. S., Trepel, J., and Neckers, L. Sensitivity of epidermal growth factor receptor and ErbB2 exon 20 insertion mutants to Hsp90 inhibition. *Brit. J. Cancer*, 97: 741-744, 2007.
- 226 Kajiguchi, T., Chung, E.-J., Lee, S., Stine, A., Kiyoi, H., Naoe, T., Levis, M. J., Neckers, L., and Trepel, J. B. FLT3 regulates β -catenin tyrosine phosphorylation, nuclear localization, and transcriptional activity in acute myeloid leukemia cells. *Leukemia*, 21:2476-84, 2007.
- 227 Kajiguchi, T., Lee, S., Lee, M.-J., Trepel, J. B., and Neckers, L. KIT regulates tyrosine phosphorylation and nuclear localization of β -catenin in mast cell leukemia. *Leukemia Res.*, 32: 761-770, 2008
- 228 Tsutsumi, S., Scroggins, B., Koga, F., Lee, M.-J., Trepel, J., Felts, S., Carreras, C., and Neckers, L. A small molecule cell-impermeant Hsp90 antagonist inhibits tumor cell motility and invasion. *Oncogene*, 27:2478-87, 2008.

- 229 Lev A, Takeda K, Zanker D, Maynard JC, Dimberu P, Waffarn E, Gibbs J, Netzer N, Princiotta MF, Neckers L, Picard D, Nicchitta CV, Chen W, Reiter Y, Bennink JR, Yewdell JW. The exception that reinforces the rule: Cross-priming by cytosolic peptides that escape degradation. *Immunity*, 28:787-798, 2008.
- 230 Gallegos Ruiz MI, Floor K, Roepman P, Rodriguez JA, Meijer GA, Mooi WJ, Jassem E, Niklinski J, Muley T, van Zandwijk N, Smit EF, Beebe K, Neckers L, Ylstra B, Giaccone G. Integration of gene dosage and gene expression in non-small cell lung cancer, identification of HSP90 as potential target. *PLoS ONE*. 2008 Mar 5;3(3):e0001722.
- 231 Barluenga S, Wang C, Fontaine JG, Aouadi K, Beebe K, Tsutsumi S, Neckers L, Winssinger N. Divergent synthesis of a peptidomimetic library targeting HSP90 and in vivo efficacy of an identified inhibitor. *Angew Chem Int Ed Engl.*, 47:4432-4435, 2008.
- 232 Park, Y., Kubo, A., Komiya, T., Coxon, A., Beebe, K., Neckers, L., Meltzer, P. S., and Kaye, F. J. Low-penetrant RB allele in small-cell cancer shows geldanamycin instability and discordant expression with mutant ras. *Cell Cycle*, 7:2384-2391, 2008.
- 233 Asami, Y., Kakeya, H., Komi, Y., Kojima, S., Nishikawa, K., Beebe, K., Neckers, L., and Osada, H. Azaspirene, a fungal product, inhibits angiogenesis by blocking Raf-1 activation. *Cancer Sci.*, 99:1853-1858, 2008.
- 234 Vaughan, C. K., Mollapour, M., Smith, J., Truman, A., Hu, B., Good, V. M., Panaretou, B., Neckers, L., Clarke, P., Workman, P., Piper, P. W., Prodromou, P., and Pearl, L. H. Hsp90-dependent activation of protein kinases is regulated by chaperone-targeted dephosphorylation of Cdc37. *Mol. Cell*, 31:886-895, 2008.
- 235 Pashtan, I., Tsutsumi, S., Wang, S., Xu, W., and Neckers, L. Targeting Hsp90 prevents escape of breast cancer cells from tyrosine kinase inhibition. *Cell Cycle*, 7:2936-2941, 2008.
- 236 Yano, A., Tsutsumi, S., Soga, S., Lee, M.-J., Trepel, J., Osada, H., and Neckers, L. Inhibition of Hsp90 activates osteoclast c-Src signaling and promotes growth of prostate carcinoma cells in bone. *Proc. Natl. Acad. Sci. USA*, 105:15541-15546, 2008.
- 237 Kang, B.H., Plescia, J., Song, H.Y., Meli, M., Colombo, G., Beebe, K., Scroggins, B., Neckers, L., and Altieri, D.C. Combinatorial drug design targeting compartmentalized cancer networks. *J. Clin. Invest.*, 119:454-464, 2009.
- 238 Wang, S., Pashtan, I., Tsutsumi, S., Xu, W., and Neckers, L. Cancer cells harboring MET gene amplification activate alternative signaling pathways to escape MET inhibition but remain sensitive to Hsp90 inhibitors. *Cell Cycle*, 8:2050-2056, 2009.
- 239 Sudarshan, S., Sourbier, C., Kong, H.-S., Block, B., Romero, V.V., Yang, Y., Galindo, C., Mollapour, M., Scroggins, B., Goode, N., Lee, M.-J., Gourlay, C.W., Trepel, J., Linehan, W.M., and Neckers, L. Fumarate hydratase deficiency in renal cancer induces glycolytic

- addiction and HIF1- α stabilization by glucose-dependent generation of reactive oxygen species. *Mol. Cell. Biol.*, 29:4080-4090, 2009.
- 240 Kawabe, M., Mandic, M., Taylor, J.L., Vasquez, C.A., Wesa, A.K., Neckers, L.M., Storkus, W.J. Heat shock protein 90 inhibitor 17-dimethylaminoethylamino-17-demethoxygeldanamycin enhances EphA2+ tumor cell recognition by specific CD8+ T cells. *Cancer Res.*, 69:6995-7003, 2009.
- 241 Barluenga, S., Fontaine, J.-G., Wang, C., Aouadi, K., Chen, R., Beebe, K., Neckers, L., and Winssinger, N. Inhibition of HSP90 with pochoximes: SAR and structure-based insights. *ChemBioChem*, 10: 1-8, 2009.
- 242 Tsutsumi, S., Mollapour, M., Graf, C., Scroggins, B. T., Xu, Wanping, Haslerova, L., Konstantinova, A., Panaretou, B., Mayer, M. P., Prodromou, C., and Neckers, L. Conformational flexibility provided by the charged linker is required for Hsp90 chaperone function and secretion. *Nat. Struct. Mol. Biol.*, 16: 1141–1147, 2009.
- 243 Wong, Y., Liu, J., Beebe, K., Neckers, L. M., and Andrus, M. Synthesis and evaluation of 8,9-amido analogs of geldanamycin. *Tetrahedron Letters*, 50:6705–6708, 2009.
- 244 Ehrlich, E. S., Wang, T., Luo, K., Xiao, Z., Niewiadomska, A. M., Martinez, T., Xu, W., Neckers, L., Yu, X. F. Regulation of Hsp90 client proteins by a Cullin5-RING E3 ubiquitin ligase. *Proc Natl Acad Sci U S A*, 106(48):20330-20335, 2009.
- 245 Yang Y, Valera VA, Padilla-Nash HM, Sourbier C, Vocke CD, Vira MA, Abu-Asab MS, Bratslavsky G, Tsokos M, Merino MJ, Pinto PA, Srinivasan R, Ried T, Neckers L, Linehan WM. UOK 262 cell line, fumarate hydratase deficient (FH-/FH-) hereditary leiomyomatosis renal cell carcinoma: in vitro and in vivo model of an aberrant energy metabolic pathway in human cancer. *Cancer Genet Cytogenet.*, 196:45-55, 2010.
- 246 Kummar, S., Gutierrez M. E., Gardner E.R., Chen X., Figg W. D., Zajac-Kaye, M., Chen, M., Steinberg, S. M., Muir, C. A., Yancey, M. A., Horneffer, Y. R., Juwara, L., Melillo, G., Ivy, S. P., Merino, M., Neckers, L., Steeg, P. S., Conley, B.A., Giaccone, G., Doroshow, J. H., Murgo, A. J. Phase I trial of 17-dimethylaminoethylamino-17-demethoxygeldanamycin (17-DMAG), a heat shock protein inhibitor, administered twice weekly in patients with advanced malignancies. *Eur J Cancer*, 46:340-347, 2010.
- 247 Mollapour, M., Tsutsumi, S., Donnelly, A. C., Beebe, K., Tokita, M. J., Lee, M.-J., Lee, S., Morra, G., Bourboulia, D., Scroggins, B. T., Colombo, G., Blagg, B. S., Panaretou, B., Stetler-Stevenson, W. G., Trepel, J. B., Piper, P. W., Prodromou, C., Laurence H. Pearl, L. H., and Neckers, L. Swel/Wee1-dependent tyrosine phosphorylation of Hsp90 regulates distinct facets of chaperone function. *Mol. Cell*, 37:333-343, 2010.
- 248 Garcia, J., Barluenga, S., Beebe, K., Neckers, L., and Winssinger, N. Concise, modular asymmetric synthesis of deguelin, tephrosin and investigation into their mode of action. *Chem. Eur. J.*, 16:9767-9771, 2010.

- 249 Morra, G., Neves, M., Plescia, C., Tsutsumi, A., Neckers, L., Verkhivker, G., Altieri, D., Colombo, G. Dynamics-based discovery of allosteric inhibitors: Selection of new ligands for the C-terminal domain of Hsp90. *J. Chem. Theory Comput.*, 6:2978-2989, 2010.
- 250 Kong HS, Lee S, Beebe K, Scroggins B, Gupta G, Lee MJ, Jung YJ, Trepel J, Neckers L. Emetine promotes von Hippel-Lindau-independent degradation of hypoxia-inducible factor-2 α in clear cell renal carcinoma. *Mol Pharmacol.*, 78:1072-1078, 2010.
- 251 Sourbier C, Valera-Romero V, Giubellino A, Yang Y, Sudarshan S, Neckers L, Linehan WM. Increasing reactive oxygen species as a therapeutic approach to treat hereditary leiomyomatosis and renal cell carcinoma. *Cell Cycle*, 9:4183-4189, 2010.
- 252 Matts RL, Brandt GE, Lu Y, Dixit A, Mollapour M, Wang S, Donnelly AC, Neckers L, Verkhivker G, Blagg BS. A systematic protocol for the characterization of Hsp90 modulators. *Bioorg Med Chem.*, 19:684-692, 2011.
- 253 Mollapour M, Tsutsumi S, Truman AW, Xu W, Vaughan CK, Beebe K, Konstantinova A, Vourganti S, Panaretou B, Piper PW, Trepel JB, Prodromou C, Pearl LH, Neckers L. Threonine 22 phosphorylation attenuates hsp90 interaction with cochaperones and affects its chaperone activity. *Mol Cell*, 41:672-681, 2011.
- 254 Mollapour M, Tsutsumi S, Kim YS, Trepel J, Neckers L. Casein kinase 2 phosphorylation of Hsp90 threonine 22 modulates chaperone function and drug sensitivity. *Oncotarget*, 2:407-417, 2011.
- 255 De Leon JT, Iwai A, Feau C, Garica Y, Balsiger HA, Storer CL, Suro RM, Garza, KM, Lee S, Kim YS, Chen Y, Ning Y-M, Riggs DL, Fletterick RJ, Guy RK, Trepel JB, Neckers LM, Cox MB. A distinct class of androgen receptor antagonists that target receptor regulation by the Hsp90 co-chaperone FKBP52. *Proc Natl Acad Sci USA*, 108(29):11878-11883, 2011.
- 256 Moulick K, Ahn JH, Zong H, Rodina A, Cerchietti L, Gomes DaGama EM, Caldas-Lopes E, Beebe K, Perna F, Hatzi K, Vu LP, Zhao X, Zatorska D, Taldone T, Smith-Jones P, Alpaugh M, Gross SS, Pillarsetty N, Ku T, Lewis JS, Larson SM, Levine R, Erdjument-Bromage H, Guzman ML, Nimer SD, Melnick A, Neckers L, Chiosis G. Affinity-based proteomics reveal cancer-specific networks coordinated by Hsp90. *Nat Chem Biol.* 7:818-826, 2011.
- 257 Yoshida S, Koga F, Tatokoro M, Kawakami S, Fujii Y, Kumagai J, Neckers L, Kihara K. Low-dose Hsp90 inhibitors tumor-selectively sensitize bladder cancer cells to chemoradiotherapy. *Cell Cycle.* 10:4291-4299, 2011.
- 258 Koga F, Yoshida S, Tatokoro M, Kawakami S, Fujii Y, Kumagai J, Neckers L, Kihara K. ErbB2 and NF κ B overexpression as predictors of chemoradiation resistance and putative

- targets to overcome resistance in muscle-invasive bladder cancer. *PLoS One*. 6(11):e27616, 2011.
- 259 Tatokoro M, Koga F, Yoshida S, Kawakami S, Fujii Y, Neckers L, Kihara K. Potential role of Hsp90 inhibitors in overcoming cisplatin resistance of bladder cancer-initiating cells. *Int J Cancer*. 131:987-996, 2012.
- 260 Kim YS, Kumar V, Lee S, Iwai A, Neckers L, Malhotra SV, Trepel JB. Methoxychalcone inhibitors of androgen receptor translocation and function. *Bioorg Med Chem Lett*. 22:2105-20129, 2012.
- 261 Tsutsumi S, Mollapour M, Prodromou C, Lee CT, Panaretou B, Yoshida S, Mayer MP, Neckers LM. Charged linker sequence modulates eukaryotic heat shock protein 90 (Hsp90) chaperone activity. *Proc Natl Acad Sci U S A*. 109:2937-2942, 2012.
- 262 Cheng Q, Chang JT, Geradts J, Neckers LM, Haystead T, Spector NL, Lyerly HK. Amplification and high-level expression of heat shock protein 90 marks aggressive phenotypes of human epidermal growth factor receptor 2 negative breast cancer. *Breast Cancer Res*. 2012;14:R62. [Epub ahead of print]
- 263 Xu W, Mollapour M, Prodromou C, Wang S, Scroggins BT, Palchick Z, Beebe K, Siderius M, Lee M-J, Couvillon A, Trepel JB, Miyata Y, Matts R, Neckers. Dynamic tyrosine phosphorylation modulates cycling of the Hsp90-Cdc37-Aha1 chaperone machine. *Mol Cell*. 2012;47:434-443.
- 264 Solier S, Kohn KW, Scroggins BT, Xu W, Trepel JB, Neckers L, Pommier Y. HSP90 α , a substrate and chaperone of DNA-PK necessary for the apoptotic response. *Proc Natl Acad Sci U S A*. 2012;109:12866-12872.
- 265 Douarre C, Sourbier C, Rosa IL, Das BB, Redon CE, Zhang H, Neckers L, Pommier P. Mitochondrial topoisomerase I is critical for mitochondrial integrity and cellular energy metabolism. 2012; *PLoS ONE* 7: e41094.
- 266 Shim JS, Rao R, Beebe K, Neckers L, Han I, Nahta R, Liu JO. Selective inhibition of HER2-positive breast cancer cells by the HIV protease inhibitor nelfinavir. *JNCI*. 2012; 104:1576-1590.
- 267 Iwai A, Bourboulia DC, Mollapour M, Jensen-Taubman S, Lee S, Donnelly AC, Yoshida S, Miyajima N, Tsutsumi T, Smith AK, Sun D, Wu X, Blagg BB, Trepel JB, Stetler-Stevenson WG, Neckers L. Combined inhibition of Wee1 and Hsp90 activates intrinsic apoptosis in cancer cells. *Cell Cycle*. 2012; 11:3649-55.
- 268 Sourbier C, Scroggins BT, Ratnayake R, Prince TL, Lee S, Lee M-J, Nagy PL, Lee YH, Trepel JB, Beutler JA, Linehan WM, Neckers L. Englerin A stimulates PKC θ to inhibit insulin signaling and simultaneously activate HSF1: An example of pharmacologically induced synthetic lethality. *Cancer Cell*. 2013;23:228-237.

- 269 Bourboulia D, Han H, Jensen-Taubman S, Gavil N, Isaac B, Wei B, Neckers L, Stetler-Stevenson WG. TIMP-2 modulates cancer cell transcriptional profile and enhances E-cadherin/beta-catenin complex expression in A549 lung cancer cells. *Oncotarget*. 2013;4:163-173.
- 270 Giubellino A, Sourbier C, Lee MJ, Scroggins B, Bullova P, Landau M, Ying W, Neckers L, Trepel JB, Pacak K. Targeting heat shock protein 90 for the treatment of malignant pheochromocytoma. *PLoS ONE*. 2013;8: e56083.
- 271 Yoshida S, Tsutsumi S, Muhlebach G, Sourbier C, Lee M-J, Lee S, Vartholomaïou E, Tatokoro M, Beebe K, Miyajima N, Mohny R, Chen Y, Hasumi H, Fukushima H, Nakamura K, Koga F, Kihara K, Trepel J, Picard D, and Neckers L. The molecular chaperone TRAP1 regulates a metabolic switch between OXPHOS and aerobic glycolysis. *Proc Natl Acad Sci U S A*. 2013; 110(17):E1604-12.
- 272 Beebe K, Mollapour M, Scroggins B, Prodromou C, Xu W, Tokita M, Taldone T, Pullen L, Zierer BK, Lee MJ, Trepel J, Buchner J, Bolon D, Chiosis G, Neckers L. Posttranslational modification and conformational state of Heat Shock Protein 90 differentially affect binding of chemically diverse small molecule inhibitors. *Oncotarget*. 2013; 4:1065-74.
- 273 Miyajima N, Tsutsumi S, Sourbier C, Beebe K, Yoshida S, Trepel J, Huang Y, Tatokoro M, and Neckers L. The HSP90 inhibitor ganetespib synergizes with the MET kinase inhibitor crizotinib in both crizotinib-sensitive and crizotinib-resistant MET-driven tumor models. *Cancer Res*. 2013; 73:7022-33.
- 274 Pepe A., Pamment M, Kim Y.S., Lee S., Lee M.J., Beebe K., Filikov A., Neckers L., Trepel J.B., Malhotra S.V. Synthesis and structure-activity relationship studies of novel dihydropyridones as androgen receptor modulators. *J Med Chem*. 2013;56:8280-8297.
- 275 Barrott J.J., Hughes P.F., Osada T., Yang X.Y., Hartman Z.C., Loïselles D.R., Spector N.L., Neckers L., Rajaram N., Hu F., Ramanujam N., Vaidyanathan G., Zalutsky M.R., Lyerly H.K., Haystead T.A. Optical and radioiodinated tethered Hsp90 inhibitors reveal selective internalization of ectopic Hsp90 in malignant breast tumor cells. *Chem Biol*. 2013;20:1187-1197.
- 276 Mollapour M, Bourboulia D, Beebe K, Polier S, Hoang A, Li Y, Guo A, Lee M-J, Fotooh-Abadi E, Khan S, Prince T, Miyajima N, Yoshida S, Tsutsumi S, Xu W, Panaretou B, Stetler-Stevenson WG, Trepel JB, Prodromou C, Neckers L. Asymmetric Hsp90 N-domain SUMOylation recruits Aha1 and ATP-competitive inhibitors. *Molecular Cell*. 2014; 53: 317–329.
- 277 Wang Y, Xu W, Zhou D, Neckers L, and Chen S. Coordinated Regulation of Serum- and Glucocorticoid-inducible Kinase 3 by a C-terminal Hydrophobic Motif and Hsp90-Cdc37 Chaperone Complex. *J. Biol. Chem*. 2014; 289: 4815–4826.

- 278 Khiati S., Rosa I.D., Sourbier C., Ma X., Rao, V.A., Neckers L.M., Zhang H., and Pommier Y. Mitochondrial topoisomerase I (Top1mt) is a novel limiting factor of doxorubicin Cardiotoxicity. *Clin Cancer Res*, in press, 2014.
- 279 Sourbier C, Ricketts CJ, Matsumoto S, Ghosh S, Chen V, Srivastava G, Tong W-H, Yang Y, Wei M-H, Torres-Cabala C, Merino M, Pendergast AM, Krishna M, Mitchell JB, Rouault TA, Neckers L, Linehan WM. Inhibition of c-Abl is synthetically lethal to fumarate hydratase-deficient tumors. *Cancer Cell*, in revision.

Selected Invited Book Chapters and Review Articles

- 1 Meek, J.L. and Neckers, L.M. Studies of serotonin turnover in discrete nuclei using HPLC. *In: E. Usdin, N. Weiner and M. B. H. Youdim (eds.), Structure and Function of Monoamine Enzymes*, pp. 799-809. Marcel Dekker, Inc.: New York, 1977.
- 2 Neckers, L.M. Intracerebral cholera toxin as a tool for studying the regulation and function of CNS serotonin. *In: B. Ceccarelli and F. Clementi (eds.), Neurotoxins: Tools in Neurobiology*, pp. 447-453. Raven Press: New York, 1979.
- 3 Bohlen, P. and Neckers, L.M. High performance liquid chromatography in the neurosciences. *In: S. H. Koslow and Hanin (eds.), Physiochemical Methods in Clinical Pharmacology*, pp. 1-22. Raven Press: New York, 1980.
- 4 Neckers, L.M. and Bohlen, P. High performance liquid chromatography in the neurosciences. *In: S. H. Koslow and Hanin (eds.), Physiochemical Methods in Clinical Pharmacology*, pp. 23-36. Raven Press: New York, 1980.
- 5 Neff, N.H. and Neckers, L.M. Evidence for neuronal feedback regulation of serotonin formation in brain. *In: B. Haber and et.al. (eds.), Serotonin: Current Aspects of Neurochemistry and Function*, pp. 445-453. Plenum: New York, 1981.
- 6 Rohwer, R.G., Goudsmit, J., Neckers, L.M. and Gajdusek, D.C. Hamster scrapie: evidence for alterations in serotonin metabolism, *Adv. Exp. Med. Biol.*, 134: 375-384, 1981.
- 7 Neckers, L.M. Serotonin turnover and regulation. *In: N. N. Osborne (ed.), Biology of Serotonergic Transmission*, pp. 139-158. John Wiley & Sons, Ltd.: New York, 1982.
- 8 Greene, W.C., Waldmann, T.A., Cossman, J., Hsu, S.M., Neckers, L.M., Marshall, S.L., Jensen, J.P., Bakhshi, A., Leonard, W.J., Depper, J.M., Jaffe, E.S. and Korsmeyer, S.J. Hairy cell leukemia: A malignant expansion of B cells which express TAC antigen. *In: P. Marks and D.W. Golde (eds.), Normal and Neoplastic Hematopoiesis*, pp. 501-511. Alan R. Liss, Inc.: New York, 1983.
- 9 Cossman, J., Neckers, L.M., Braziel, R., Bakhshi, A., Arnold, A. and Korsmeyer, S. Induction of differentiation in B cell leukemias. *In: A. Bernard, L. Boumsell, J. Dausset, C. Milstein and S. F. Schlossman (eds.), Leukocyte Typing*, pp. 599-603. Springer-Verlag: Berlin/Heidelberg, 1984.
- 10 Neckers, L.M., Bauer, S. and Nordan, R.P. Growth factor regulation of transferrin receptor synthesis and expression in mouse plasmacytomas. *In: Mechanisms of B Cell Neoplasia*, pp. 36-47. Editiones Roche: Basle, Switzerland, 1985.
- 11 Neckers, L.M. Transferrin receptor regulation of proliferation in normal and neoplastic B cells. *In: M. Potter, F. Melchers and H. Wiegert (eds.), Current Topics in Microbiology and Immunology*, pp. 62-68. 1985.

- 12 Neckers, L.M., Bauer, S., McGlennen, R., Trepel, J.B., Rao, K. and Greene, W.C. Calcium regulation of transferrin receptor expression in normal and malignant T cells: Evidence for a transcriptional control point subsequent to interleukin-2 receptor activation. *In: G. Spik, J. Montreuil, R.R. Crichton and J. Mazurier (eds.), Proteins of Iron Storage and Transport*, pp. 171-174. Elsevier Science Publ.: Amsterdam, The Netherlands, 1985.
- 13 Neckers, L.M., Yenokida, G. and James, S.P. Transferrin receptors are required for B cell proliferation for not for immunoglobulin secretion, *J. Cell. Biochem.*, 377-389, 1985.
- 14 Trepel, J.B., Colamonici, O.R., Klausner, R.D. and Neckers, L.M. Cyclic nucleotide regulation of promyelocytic cell transferrin receptor distribution and synthesis. *In: J. W. Steilein, F. Ahmad, S. Black, B. Blomberg and R. W. Voelly (eds.), Advances in Gene Technology: Molecular Biology of the Immune System*, pp. 325-326. Cambridge University Press: Cambridge, 1985.
- 15 Colamonici, O.R., Trepel, J.B. and Neckers, L.M. Megakaryocyte differentiation: studies at the molecular level using the K-562 cell line, *Prog. Clin. Biol. Res.*, 215: 187-191, 1986.
- 16 Neckers, L.M. and Trepel, J.B. Transferrin receptor expression and the control of cell growth, *Cancer Invest*, 4: 461-470, 1986.
- 17 Neckers, L.M., Nordan, R., Bauer, S. and Potter, M. Studies on transferrin receptor expression in mouse plasmacytoma cells, *Curr. Top. Microbiol. Immunol.*, 132: 148-152, 1986.
- 18 Nordan, R.P., Neckers, L.M., Rudikoff, S. and Potter, M. A growth factor required by plasmacytoma cells in vitro, *Curr. Top. Microbiol. Immunol.*, 132: 114-120, 1986.
- 19 Pittaluga, S., Cossman, J., Trepel, J.B. and Neckers, L.M. Inhibition of immunoglobulin secretion, but not immunoglobulin synthesis, by a monoclonal antibody. *In: E. L. Reinherz, B. F. Haynes, L. M. Nadler and I. D. Bernstein (eds.), Leukocyte Typing II: Volume 2 Human B Lymphocytes*, pp. 473-481. Springer-Verlag: New York, 1986.
- 20 Trepel, J.B., Klausner, R.D., Colamonici, O.R., Pittaluga, S. and Neckers, L.M. Down-regulation of promyelocytic cell transferrin receptor expression by cholera toxin and cyclic adenosine monophosphate. *In: E. L. Reinherz, B. F. Haynes, L. M. Nadler and I. D. Bernstein (eds.), Leukocyte Typing II: Volume 3*, pp. 327-338. Springer-Verlag: New York, 1986.
- 21 Loke, S.L., Stein, C., Zhang, X., Avigan, M., Cohen, J. and Neckers, L.M. Delivery of c-myc antisense phosphorothioate oligodeoxynucleotides to hematopoietic cells in culture by liposome fusion: specific reduction in c-myc protein expression correlates with inhibition of cell growth and DNA synthesis, *Curr. Top. Microbiol. Immunol.*, 141: 282-289, 1988.
- 22 Sausville, E.A., Moyer, J.D., Heikkila, R., Neckers, L.M. and Trepel, J.B. A correlation of bombesin-responsiveness with myc-family gene expression in small cell lung carcinoma cell lines, *Ann. N.Y. Acad. Sci.*, 547: 310-321, 1988.

- 23 Neckers, L.M. Antisense oligodeoxynucleotides as a tool for studying cell regulation: Mechanism of uptake and application to the study of oncogene function. *In: J. S. Cohen (ed.), Oligodeoxynucleotides: Antisense inhibitors of gene expression*, pp. 211-231. Macmillan Press: 1989.
- 24 Nordan, R.P., Mock, B.A., Neckers, L.M. and Rudikoff, S. The role of plasmacytoma growth factor in the in vitro responses of murine plasmacytoma cells, *Ann. N.Y. Acad. Sci.*, 557: 200-205, 1989.
- 25 Myers, C., Trepel, J.B., Neckers, L.M. and Linehman, W.M. Potential roles of growth factors, their agonists and antagonists in adjuvant therapy. *In: W. B. Saunders (ed.), Sixth International Conference on the Adjuvant Therapy of Cancer*, 1991.
- 26 Neckers, L.M. Regulation of transferrin receptor expression and control of cell growth, *Pathobiology*, 59: 11-18, 1991.
- 27 Rosolen, A., Whitesell, L. and Neckers, L.M. Antisense oligodeoxynucleotide inhibition of N-myc expression in a neuroectodermal cell line, *Advances in Neuroblastoma Research*, 3: 29-36, 1991.
- 28 Whitesell, L., Rosolen, A. and Neckers, L.M. N-myc expression is required for neuroectodermal transdifferentiation in vitro, *Advances in Neuroblastoma Research*, 3: 45-54, 1991.
- 29 Neckers, L., Whitesell, L., Rosolen, A. and Geselowitz, D.A. Antisense inhibition of oncogene expression, *Crit. Rev. Oncol.*, 3: 175-231, 1992.
- 30 Neckers, L.M., Whitesell, L., Rosolen, A. and Geselowitz, D. Antisense inhibition of gene expression, *CRC Critical Reviews in Oncogenesis*, 3: 175-231, 1992.
- 31 Neckers, L.M., Whitesell, L. and Rosolen, A. Antisense inhibition of gene expression: a tool for studying the role of N-myc in the growth and differentiation of neuroectoderm-derived cells. *In: R. Erickson and J. Izant (eds.), Gene Regulation by Antisense Nucleic Acids*, pp. 295-302. Raven Press: 1992.
- 32 Neckers, L.M., Rosolen, A., Fahmy, B. and Whitesell, L. Specific inhibition of oncogene expression in vitro and in vivo by antisense oligonucleotides. *In: R. Baserga (ed.), Antisense Strategies*, pp. 37-44. New York Academy of Sciences Press: New York, 1992.
- 33 Neckers, L.M., Rosolen, A. and Whitesell, L. Antisense inhibition of gene expression: a tool for studying the role of N-myc in the growth and differentiation of neuroectoderm-derived cells, *J. Immunotherapy*, 12: 162-166, 1992.
- 34 Neckers, L. and Whitesell, L. Antisense technology: biological utility and practical considerations, *Am. J. Physiol*, 265: L1-12, 1993.

- 35 Neckers, L.M. Cellular internalization of oligonucleotides. *In*: S. T. Crooke and B. Lebleu (eds.), *Antisense Research and Applications*, pp. 451-460. CRC Press: Boca Raton, Florida, 1993.
- 36 Neckers, L.M. The use of antisense oligonucleotides in neural systems, *NeuroProtocols*, 2: 3-7, 1993.
- 37 Rosolen, A., Toretzky, J. and Neckers, L.M. Antisense RNA-mediated reduction in c-myc protein expression in the neuroepithelioma CHP100 results in reduced tumorigenesis in an athymic murine xenograft model, *Advances in Neuroblastoma Research*, 4: 95-101, 1994.
- 38 Neckers, L.M., Geselowitz, D. and Chavany, C. Pharmacokinetics and delivery of oligonucleotides to the brain. *In*: S. Akhtar (ed.), *Delivery systems for antisense oligonucleotide therapeutics*, CRC Press: Boca Raton, 1995.
- 39 Neckers, L.M., Geselowitz, D., Chavany, C., Whitesell, L. and Bergan, R. Antisense Efficacy: Site-Restricted In Vivo and Ex Vivo Models. *In*: S. Agrawal (ed.), *Methods in Molecular Medicine*, Humana Press, Inc.: Totowa, 1995.
- 40 Neckers, L.M. Non-antisense effects of antisense oligonucleotides. *In*: B. Weiss (ed.), *Antisense Oligonucleotides and Antisense RNA as Novel Pharmacologic and Therapeutic Agents*, CRC Press: Boca Raton, 1996.
- 41 Neckers, L.M. and Iyer, K. Clinical utility of antisense oligonucleotides. *In*: I. Magrath and B. Huber (eds.), *Gene therapy of cancer: Progress and prospects*, Cambridge University Press: New York, 1996.
- 42 Neckers, L.M. Oligonucleotide drugs: Antisense- and non-antisense-mediated mechanisms of action. *In*: C. A. Stein and A. M. Krieg (eds.), *Applied Antisense Oligonucleotide Technology*, John Wiley and Sons, Inc.: New York, 1997.
- 43 Neckers, L.M. Oligonucleotide inhibitors of function: mRNA and protein interactions. *In*: S. A. Rosenberg (ed.), *Frontiers in Oncology*, Scientific American: New York, 1998.
- 44 Neckers, L.M., Mimnaugh, E.G. and Schulte, T.W. The Hsp90 chaperone family. *In*: D. S. Latchman (ed.), *Handbook of Experimental Pharmacology: Stress Proteins*, Springer-Verlag: New York, 1998.
- 45 Bonvini, P., Hwang, S.G., el-Gamil, M., Robbins, P., Neckers, L. and Trepel, J. Melanoma cell lines contain a proteasome-sensitive, nuclear cytoskeleton-associated pool of beta-catenin, *Ann. N.Y. Acad. Sci.*, 886: 208-211, 1999.
- 46 Neckers, L.M. Effects of geldanamycin and other naturally occurring small molecule antagonists of heat shock protein 90 on HER2 protein expression, *Breast Disease*, 11: 1-11, 1999.
- 47 Neckers, L.M. Preclinical studies of Geldanamycin as a potential anticancer agent, *Investigational New Drugs*, 17: 361-373, 1999.

- 48 Neckers, L.M. aHIF: the missing link between HIF-1 and VHL?, *J. Natl. Cancer Inst.*, *91*: 106-107, 1999.
- 49 Neckers, L.M. Hsp90 as an anti-cancer target, *Drug Resist. Updates*, *2*: 165-172, 1999.
- 50 Neckers, L.M. Can the heat shock protein 90 inhibitor geldanamycin be designed to specifically inhibit HER-2 tyrosine kinase?, *Drug Resist. Updates*, *3*: 203-205, 2000.
- 51 Bonvini, P., Trepel, J.B. and Neckers, L.M. Beta-catenin: A potential target for cancer chemotherapy. *In*: L. Bandara and N. LaThangue (eds.), *Targets for Cancer Chemotherapy: Transcription Factors and Other Nuclear Proteins*, pp. 71-100. Humana Press: Totawa, 2001.
- 52 Mimnaugh, E.G. and Neckers, L.M. Immunoblotting methods for the study of protein ubiquitination, *Methods Mol. Biol.*, *194*: 179-203, 2002.
- 53 Neckers, L. Heat shock protein 90 inhibition by 17-allylamino-17-demethoxygeldanamycin: a novel therapeutic approach for treating hormone-refractory prostate cancer, *Clin. Cancer Res.*, *8*: 962-966, 2002.
- 54 Neckers, L. and Neckers, K. Heat-shock protein 90 inhibitors as novel cancer chemotherapeutic agents, *Expert Opin. Emerg. Drugs*, *7*: 277-288, 2002.
- 55 Neckers, L. Hsp90 inhibitors as novel cancer chemotherapeutic agents, *Trends Mol. Med.*, *8*: S55-S61, 2002.
- 56 Isaacs, J.S., Xu, W. and Neckers, L. Heat shock protein 90 as a molecular target for cancer therapeutics, *Cancer Cell*, *3*: 213-217, 2003.
- 57 Marcu, M.G. and Neckers, L.M. The C-terminal half of heat shock protein 90 represents a second site for pharmacologic intervention in chaperone function, *Curr. Cancer Drug Targets*, *3*: 343-347, 2003.
- 58 Neckers, L. Screening for inducers of kinase degradation, *Chem. Biol.*, *10*: 587-589, 2003.
- 59 Neckers, L. and Ivy, S.P. Heat shock protein 90, *Curr. Opin. Oncol.*, *15*: 419-424, 2003.
- 60 Linehan, W.M., Vasselli, J., Srinivasan, R., Walther, M.M., Merino, M., Choyke, P., Vocke, C., Schmidt, L., Isaacs, J.S., Glenn, G., Toro, J., Zbar, B., Bottaro, D. and Neckers, L. Genetic basis of cancer of the kidney: disease-specific approaches to therapy, *Clin. Cancer Res.*, *10*: 6282S-6289S, 2004.
- 61 Mulshine, J.L. and Neckers, L. Epithelial-directed drug delivery: influence of formulation and delivery devices, *Lung Cancer*, *46*: 387-392, 2004.
- 62 Mimnaugh, E.G. and Neckers, L.M. Measuring ubiquitin conjugation in cells, *Methods Mol. Biol.*, *301*: 223-241, 2005.

- 63 Neckers, L. and Neckers, K. Heat-shock protein 90 inhibitors as novel cancer chemotherapeutics - an update, *Expert Opin.Emerg. Drugs*, 10: 137-149, 2005.
- 64 Neckers, L. Chaperoning oncogenes: Hsp90 as a target of geldanamycin, *Handb. Exp. Pharmacol.*, 172: 259-277, 2006.
- 65 Neckers, L. Using natural product inhibitors to validate hsp90 as a molecular target in cancer, *Curr. Top. Med. Chem.*, 6: 1163-1171, 2006.
- 66 Lattouf, J.-B., Srinivasan, S., Pinto, P.A., Linehan, W.M., and Neckers, L.M. The role of heat shock protein 90 in genitourinary malignancy, *Nature Clin Pract Urology*, 3: 590-601, 2006.
- 67 Chiosis, G. and Neckers, L. Tumor selectivity of Hsp90 inhibitors: the explanation remains elusive. *ACS Chem Biol*, 1:279-284, 2006.
- 68 Xu, W. and Neckers, L.M. The clients of Hsp90: Targeting the six hallmarks of cancer, *Clin Cancer Res.*, 13: 1625-1629, 2007.
- 69 Sudarshan, S., Linehan, W.M., and Neckers, L.M. HIF and fumarate hydratase in renal cancer, *Brit J Cancer*, 96:403-407, 2007.
- 70 Sudarshan, S., Pinto, P. A., Neckers, L., and Linehan, W. M. Mechanisms of disease: hereditary leiomyomatosis and renal cell cancer--a distinct form of hereditary kidney cancer. *Nat Clin Pract Urol*, 4:104-110, 2007.
- 71 Linehan, W. M., Pinto, P. A., Srinivasan, R., Merino, M., Choyke, P., Choyke, L., Coleman, J., Toro, J., Glenn, G., Vocke, C., Zbar, B., Schmidt, L. S., Bottaro, D., and Neckers, L. Identification of the genes for kidney cancer: opportunity for disease-specific targeted therapeutics. *Clin Cancer Res*, 13:671s-679s, 2007.
- 72 Neckers L. Heat shock protein 90: the cancer chaperone. *J Biosci*. 32:517-30, 2007.
- 73 Bratslavsky G, Sudarshan S, Neckers L, Linehan WM. Pseudohypoxic pathways in renal cell carcinoma. *Clin Cancer Res*. 13:4667-71, 2007.
- 74 Workman P, Burrows F, Neckers L, Rosen N. Drugging the cancer chaperone HSP90: combinatorial therapeutic exploitation of oncogene addiction and tumor stress. *Ann N Y Acad Sci*. 1113:202-16, 2007.
- 75 Tsutsumi S, Neckers L. Extracellular heat shock protein 90: a role for a molecular chaperone in cell motility and cancer metastasis. *Cancer Sci*. 98:1536-9, 2007.
- 76 Neckers L, Kern A, Tsutsumi S. Hsp90 inhibitors disrupt mitochondrial homeostasis in cancer cells. *Chem Biol*. 14:1204-6, 2007.
- 77 Scroggins, B. T. and Neckers, L. Post-translational modification of heat-shock protein 90: impact on chaperone function. *Expert Opinion on Drug Discovery*, 2:1403-1414, 2007.

- 78 Linehan, W. M., Pinto, P., Bratslavsky, G., Pfaffenroth, E., Merino, M., Vocke, C., Toro, J., Bottaro, D., Neckers, L., Schmidt, L., Srinivasan, R. Hereditary kidney cancer: Unique opportunity for disease-based therapy. *Cancer*, submitted.
- 79 Neckers, L. and Tatu, U. Molecular chaperones in pathogen virulence: emerging new targets for therapy. *Cell Host Microbe*, 4:519-527, 2008.
- 80 Xu, W. and Neckers, L. Differential dependence of EGFR and ErbB2 on the molecular chaperone Hsp90. In, "EGFR Signaling Networks in Cancer Therapy", edited by J. Haley and B. Gullick, Humana Press, pp. 63-72, 2008.
- 81 Neckers, L., Mollapour, M., and Tsutsumi, S. The complex dance of the molecular chaperone Hsp90. *Trends Biochem. Sci.*, 34:223-226, 2009.
- 82 Tsutsumi, S., Beebe, K., and Neckers, L. Impact of heat-shock protein 90 on cancer metastasis. *Future Oncol.*, 5:679-688, 2009.
- 83 Koga F, Kihara K, Neckers L. Inhibition of cancer invasion and metastasis by targeting the molecular chaperone heat-shock protein 90. *Anticancer Res.*, 29:797-807, 2009.
- 84 Neckers, L., Tsutsumi, S., and Mollapour, M. Visualizing the twists and turns of a molecular chaperone. *Nat. Struct. Mol. Biol.*, 16:235-236, 2009.
- 85 Scroggins, B. T. and Neckers, L. Just say NO: Nitric oxide inhibits Hsp90 activity. *EMBO Reports*, 10:1093-1094, 2009.
- 86 Kim, Y. S., Alarcon, S. V., Leem S., Leem M. J., Giacconem G., Neckers, L., Trepel, J. B. Update on Hsp90 inhibitors in clinical trial. *Curr Top Med Chem.*, 9:1479-1492, 2009.
- 87 Linehan, W. M., P. A. Pinto, G. Bratslavsky, E. Pfaffenroth, M. Merino, C. D. Vocke, J. R. Toro, D. P. Bottaro, L. Neckers, L. S. Schmidt, and R. Srinivasan. Hereditary Kidney Cancer: Unique Opportunity for Disease-Based Therapy. *Cancer*, 115: 2252-2261, 2009.
- 88 Linehan WM, Bratslavsky G, Pinto PA, Schmidt LS, Neckers L, Bottaro DP, Srinivasan R. Molecular diagnosis and therapy of kidney cancer. *Annu. Rev. Med.*, 61:329-343, 2010.
- 89 Mollapour, M. and Neckers, L. Quinacrine: New anti-tumor application for an old anti-malaria drug [Comment]. *Cell Cycle*, 9:2, 2010.
- 90 Mollapour M, Tsutsumi S, Neckers L. Hsp90 phosphorylation, Wee1 and the cell cycle. *Cell Cycle*. 9:2310-2316, 2010.
- 91 Trepel, J., Mollapour, M. , Giaccone, G., and Neckers, L. Targeting the dynamic Hsp90 complex in cancer. *Nat. Rev. Cancer*, 10:537-549, 2010.
- 92 Vaughan CK, Neckers L, Piper PW. Understanding of the Hsp90 molecular chaperone reaches new heights. *Nat Struct Mol Biol.*, 17:1400-1404, 2010.

- 93 Wang Y, Trepel JB, Neckers LM, Giaccone G. STA-9090, a small-molecule Hsp90 inhibitor for the potential treatment of cancer. *Curr Opin Investig Drugs*, 1:1466-1476, 2010.
- 94 Xu W, Trepel J, Neckers L. Ras, ROS and Proteotoxic Stress: A Delicate Balance. *Cancer Cell*, 20:281-282, 2011.
- 95 Mollapour M, Neckers L. Detecting HSP90 Phosphorylation. *Methods Mol Biol.*, 787:67-74, 2011.
- 96 Prince T and Neckers L. A network of its own: The unique interactome of the HSP90 co-chaperone, Sba1/p23. *Mol Cell*, 43:159-160, 2011.
- 97 Mollapour M, Neckers L. Post-translational modifications of Hsp90 and their contributions to chaperone regulation. *Biochim Biophys Acta*. 1823:648-655, 2012.
- 98 Neckers L, Workman P. Hsp90 molecular chaperone inhibitors: are we there yet? *Clin Cancer Res*. 18:64-76, 2012.
- 99 Alarcon SV, Mollapour M, Lee M-J, Tsutsumi S, Lee S, Kim YS, Prince T, Apolo A, Giaccone G, Xu W, Neckers LM and Trepel JB. Tumor-Intrinsic and Tumor-Extrinsic Factors Impacting Hsp90-Targeted Therapy. *Curr Mol Med*, Jul 17 [Epub ahead of print], 2012.
- 100 Xu W, Neckers L. The double edge of the HSP90-CDC37 chaperone machinery: opposing determinants of kinase stability and activity. *Future Oncol*, 8:939-942, 2012.
- 101 Miyata Y, Nakamoto H, Neckers L. *Curr Pharm Des*. The therapeutic target Hsp90 and cancer hallmarks. 2013;19:347-365.
- 102 Walton-Diaz A, Khan S, Bourbouli D, Trepel JB, Neckers L, Mollapour M. Contributions of co-chaperones and post-translational modifications towards Hsp90 drug sensitivity. *Future Med Chem*. 2013;5:1059-1071.
- 103 Neckers L, Ricketts C, Linehan ML. New insights into VHL function highlighted by investigation of the trichloroethylene-induced p.P81S hotspot mutation. *J Natl Cancer Inst*. 2013; 105:1339-1340.
- 104 Neckers L, Trepel JB. Stressing the development of small molecules targeting HSP90. *Clin Cancer Res*. 2014;20:275-277.
- 105 Rasola A, Neckers L, Picard D. Mitochondrial oxidative phosphorylation TRAP(1)ped in tumor cells. *Trends Cell Biol*. 2014 Apr 11. pii: S0962-8924(14)00050-6. doi: 10.1016/j.tcb.2014.03.005. [Epub ahead of print]
- 106 Tatu U, Neckers L. Chaperoning parasitism: the importance of molecular chaperones in

pathogen virulence. *Parasitology*. 2014, in press.