

REFERENCES

- Anzola, M. (2004). Hepatocellular carcinoma: role of hepatitis B and hepatitis C viruses proteins in hepatocarcinogenesis. *J Viral Hepat.*, 11(5): 383-93.
- Baeg, G. H., Lin, X., Khare, N., Baumgartner, S. and Perrimon, N. (2001). Heparan sulfate proteoglycans are critical for the organization of the extracellular distribution of Wiggless. *Development.*, 128(1): 87-94.
- Bernfield, M., Gotte, M., Park, P. W., Reizes, O., Fitzgerald, M. L., Lincecum, J., et al. (1999). Functions of cell surface heparan sulfate proteoglycans. *Annu Rev Biochem.*, 68: 729-77.
- BLACKHALL, F. H., MERRY, C. L., DAVIES, E. J. & JAYSON, G. C. (2001) Heparan sulfate proteoglycans and cancer. *Br J Cancer.*, 85: 1094-8.
- Brandan, E., Carey, D. J., Larrain, J., Melo, F. and Campos, A. (1996). Synthesis and processing of glypican during differentiation of skeletal muscle cells. *Eur J Cell Biol.*, 71(2): 170-6.

Bressac, B., Kew, M., Wands, J. and Ozturk, M. (1991). Selective G to T mutations of p53 gene in hepatocellular carcinoma from southern Africa. *Nature.*, 350(6317): 429-31.

Bruix, J., Sherman, M., Llovet, J. M., Beaugrand, M., Lencioni, R., Burroughs, A. K., *et al.* (2001). Clinical management of hepatocellular carcinoma. Conclusions of the Barcelona-2000 EASL conference. European Association for the Study of the Liver. *J Hepatol.*, 35(3): 421-30.

Capurro, M., Wanless, I. R., Sherman, M., Deboer, G., Shi, W., Miyoshi, E., *et al.* (2003). Glypican-3: a novel serum and histochemical marker for hepatocellular carcinoma. *Gastroenterology.*, 125(1): 89-97.

Capurro, M. I., Xiang, Y. Y., Lobe, C. and Filmus, J. (2005). Glypican-3 promotes the growth of hepatocellular carcinoma by stimulating canonical Wnt signaling. *Cancer Res.*, 65(14): 6245-54.

Carey, D. J. and Stahl, R. C. (1990). Identification of a lipid-anchored heparan sulfate proteoglycan in Schwann cells. *J Cell Biol.*, 111(5 Pt 1): 2053-62.

Cramp, M. E. (1999). Hbv + Hcv = Hcc? *Gut.*, 45(2): 168-9.

Crook, M. (1993). The determination of plasma or serum sialic acid. *Clin Biochem.*, 26(1): 31-8.

Crook, M. A., Treloar, A., Haq, M. and Tutt, P. (1994). Serum total sialic acid and acute phase proteins in elderly subjects. *Eur J Clin Chem Clin Biochem.*, 32(10): 745-7.

Cumberledge, S. and Reichsman, F. (1997). Glycosaminoglycans and WNTs: just a spoonful of sugar helps the signal go down. *Trends Genet.*, 13(11): 421-3.

DE CAT, B. & DAVID, G. (2001) Developmental roles of the glypicans. *Semin Cell Dev Biol.*, 12: 117-25.

De Cat, B., Muyldermans, S. Y., Coomans, C., Degeest, G., Vanderschueren, B., Creemers, J., *et al.* (2003). Processing by proprotein convertases is required for glypican-3 modulation of cell survival, Wnt signaling, and gastrulation movements. *J Cell Biol.*, 163(3): 625-35.

Dhodapkar, M. V., Abe, E., Theus, A., Lacy, M., Langford, J. K., Barlogie, B., *et al.* (1998). Syndecan-1 is a multifunctional regulator of myeloma pathobiology: control of tumor cell survival, growth, and bone cell differentiation. *Blood.*, 91(8): 2679-88.

Diamantopoulou, S., Stagiannis, K. D., Vasilopoulos, K., Barlas, P., Tsegenidis, T. and Karamanos, N. K. (1999). Importance of high-performance liquid chromatographic analysis of serum N-acetylneuraminic acids in evaluating

surgical treatment in patients with early endometrial cancer. *J Chromatogr B Biomed Sci Appl.*, 732(2): 375-81.

Donato, F., Tagger, A., Gelatti, U., Parrinello, G., Boffetta, P., Albertini, A., *et al.* (2002). Alcohol and hepatocellular carcinoma: the effect of lifetime intake and hepatitis virus infections in men and women. *Am J Epidemiol.*, 155(4): 323-31.

FILMUS, J. (2001) Glypicans in growth control and cancer. *Glycobiology.*, 11, 19R-23R.

Filmus, J. and Selleck, S. B. (2001). Glypicans: proteoglycans with a surprise. *J Clin Invest.*, 108(4): 497-501.

El-Serag, H. B. and Rudolph, K. L. (2007). Hepatocellular carcinoma: epidemiology and molecular carcinogenesis. *Gastroenterology.*, 132(7): 2557-76.

Fransson, L. A., Edgren, G., Havsmark, B. and Schmidtchen, A. (1995). Recycling of a glycosylphosphatidylinositol-anchored heparan sulphate proteoglycan (glypican) in skin fibroblasts. *Glycobiology.*, 5(4): 407-15.

Freeman, A. J., Dore, G. J., Law, M. G., Thorpe, M., Von Overbeck, J., Lloyd, A. R., *et al.* (2001). Estimating progression to cirrhosis in chronic hepatitis C virus infection. *Hepatology.*, 34(4 Pt 1): 809-16.

Garner, R. C., Miller, E. C. and Miller, J. A. (1972). Liver microsomal metabolism of aflatoxin B 1 to a reactive derivative toxic to *Salmonella typhimurium* TA 1530. *Cancer Res.*, 32(10): 2058-66.

Gonzalez, A. D., Kaya, M., Shi, W., Song, H., Testa, J. R., Penn, L. Z., *et al.* (1998). OCI-5/GPC3, a glypican encoded by a gene that is mutated in the Simpson-Golabi-Behmel overgrowth syndrome, induces apoptosis in a cell line-specific manner. *J Cell Biol.*, 141(6): 1407-14.

Grazi, G. L., Mazziotti, A., Legnani, C., Jovine, E., Miniero, R., Gallucci, A., *et al.* (1995). The role of tumor markers in the diagnosis of hepatocellular carcinoma, with special reference to the des-gamma-carboxy prothrombin. *Liver Transpl Surg.*, 1(4): 249-55.

Gupta, S., Bent, S. and Kohlwes, J. (2003). Test characteristics of alpha-fetoprotein for detecting hepatocellular carcinoma in patients with hepatitis C. A systematic review and critical analysis. *Ann Intern Med.*, 139(1): 46-50.

Hagihara, K., Watanabe, K., Chun, J. and Yamaguchi, Y. (2000). Glypican-4 is an FGF2-binding heparan sulfate proteoglycan expressed in neural precursor cells. *Dev Dyn.*, 219(3): 353-67.

Han, C., Belenkaya, T. Y., Wang, B. and Lin, X. (2004). *Drosophila* glypicans control the cell-to-cell movement of Hedgehog by a dynamin-independent process. *Development.*, 131(3): 601-11.

Hippo, Y., Watanabe, K., Watanabe, A., Midorikawa, Y., Yamamoto, S., Ihara, S., *et al.* (2004). Identification of soluble NH₂-terminal fragment of glypican-3 as a serological marker for early-stage hepatocellular carcinoma. *Cancer Res.*, 64(7): 2418-23.

Hsu, H. C., Cheng, W. and Lai, P. L. (1997). Cloning and expression of a developmentally regulated transcript MXR7 in hepatocellular carcinoma: biological significance and temporospatial distribution. *Cancer Res.*, 57(22): 5179-84.

Hughes-Benzie, R. M., Pilia, G., Xuan, J. Y., Hunter, A. G., Chen, E., Golabi, M., *et al.* (1996). Simpson-Golabi-Behmel syndrome: genotype/phenotype analysis of 18 affected males from 7 unrelated families. *Am J Med Genet.*, 66(2): 227-34.

Ikeda, K., Saitoh, S., Arase, Y., Chayama, K., Suzuki, Y., Kobayashi, M., *et al.* (1999). Effect of interferon therapy on hepatocellular carcinogenesis in patients with chronic hepatitis type C: A long-term observation study of 1,643 patients using statistical bias correction with proportional hazard analysis. *Hepatology.*, 29(4): 1124-30.

Iozzo, R. V. (2001) Heparan sulfate proteoglycans: intricate molecules with intriguing functions. *J Clin Invest.*, 108, 165-7.

Ivins, J. K., Litwack, E. D., Kumbasar, A., Stipp, C. S. and Lander, A. D. (1997). Cerebroglycan, a developmentally regulated cell-surface heparan sulfate proteoglycan, is expressed on developing axons and growth cones. *Dev Biol.*, 184(2): 320-32.

Jackson, S. M., Nakato, H., Sugiura, M., Jannuzi, A., Oakes, R., Kaluza, V., *et al.* (1997). dally, a Drosophila glypican, controls cellular responses to the TGF-beta-related morphogen, Dpp. *Development.*, 124(20): 4113-20.

Johnson, P. J. (2001). The role of serum alpha-fetoprotein estimation in the diagnosis and management of hepatocellular carcinoma. *Clin Liver Dis.*, 5(1): 145-59.

Kanematsu, T., Furui, J., Yanaga, K., Okudaira, S., Shimada, M. and Shirabe, K. (2002). A 16-year experience in performing hepatic resection in 303 patients with hepatocellular carcinoma: 1985-2000. *Surgery.*, 131(1 Suppl): S153-8.

Kao, J. H., Chen, P. J., Lai, M. Y. and Chen, D. S. (2002). Genotypes and clinical phenotypes of hepatitis B virus in patients with chronic hepatitis B virus infection. *J Clin Microbiol.*, 40(4): 1207-9.

Kasahara, A., Hayashi, N., Fusamoto, H., Kawada, Y., Imai, Y., Yamamoto, H., *et al.* (1993). Clinical evaluation of plasma des-gamma-carboxy prothrombin as a marker protein of hepatocellular carcinoma in patients with tumors of various sizes. *Dig Dis Sci.*, 38(12): 2170-6.

Kim, H., Xu, G. L., Borczuk, A. C., Busch, S., Filmus, J., Capurro, M., *et al.* (2003). The heparan sulfate proteoglycan GPC3 is a potential lung tumor suppressor. *Am J Respir Cell Mol Biol.*, 29(6): 694-701.

Kleeff, J., Ishiwata, T., Kumbasar, A., Friess, H., Buchler, M. W., Lander, A. D., *et al.* (1998). The cell-surface heparan sulfate proteoglycan glypican-1 regulates growth factor action in pancreatic carcinoma cells and is overexpressed in human pancreatic cancer. *J Clin Invest.*, 102(9): 1662-73.

Kokoglu, E., Uslu, E., Uslu, I. and Hatemi, H. H. (1989). Serum and tissue total sialic acid as a marker for human thyroid cancer. *Cancer Lett.*, 46(1): 1-5.

Kongtawelert, P., Tangkijvanich, P., Ong-Chai, S. and Poovorawan, Y. (2003). Role of serum total sialic acid in differentiating cholangiocarcinoma from hepatocellular carcinoma. *World J Gastroenterol.*, 9(10): 2178-81.

Koshiishi, I., Takenouchi, M. and Imanari, T. (1999). Structural characteristics of oversulfated chondroitin/dermatan sulfates in the fibrous lesions of the liver with cirrhosis. *Arch Biochem Biophys.*, 370(2): 151-5.

Kovalszky, I., Pogany, G., Molnar, G., Jeney, A., Lapis, K., Karacsonyi, S., *et al.* (1990). Altered glycosaminoglycan composition in reactive and neoplastic human liver. *Biochem Biophys Res Commun.*, 167(3): 883-90.

Lander, A. D. and Selleck, S. B. (2000). The elusive functions of proteoglycans: in vivo veritas. *J Cell Biol.*, 148(2): 227-32.

Li, D., Mallory, T. and Satomura, S. (2001). AFP-L3: a new generation of tumor marker for hepatocellular carcinoma. *Clin Chim Acta.*, 313(1-2): 15-9.

Li, M., Choo, B., Wong, Z. M., Filmus, J. and Buick, R. N. (1997). Expression of OCI-5/glypican 3 during intestinal morphogenesis: regulation by cell shape in intestinal epithelial cells. *Exp Cell Res.*, 235(1): 3-12.

Lin, H., Huber, R., Schlessinger, D. and Morin, P. J. (1999). Frequent silencing of the GPC3 gene in ovarian cancer cell lines. *Cancer Res.*, 59(4): 807-10.

Litwack, E. D., Ivins, J. K., Kumbasar, A., Paine-Saunders, S., Stipp, C. S. and Lander, A. D. (1998). Expression of the heparan sulfate proteoglycan glypican-1 in the developing rodent. *Dev Dyn.*, 211(1): 72-87.

Lum, L., Zhang, C., Oh, S., Mann, R. K., von Kessler, D. P., Taipale, J., *et al.* (2003). Hedgehog signal transduction via Smoothened association with a cytoplasmic

complex scaffolded by the atypical kinesin, Costal-2. *Mol Cell.*, 12(5): 1261-74.

Lyon, M. and Gallagher, J. T. (1998). Bio-specific sequences and domains in heparan sulphate and the regulation of cell growth and adhesion. *Matrix Biol.*, 17(7): 485-93.

Marrero, J. A. and Lok, A. S. (2004). Newer markers for hepatocellular carcinoma. *Gastroenterology.*, 127(5 Suppl 1): S113-9.

McKenzie, E., Tyson, K., Stamps, A., Smith, P., Turner, P., Barry, R., *et al.* (2000). Cloning and expression profiling of Hpa2, a novel mammalian heparanase family member. *Biochem Biophys Res Commun.*, 276(3): 1170-7.

Mertens, G., Van der Schueren, B., van den Berghe, H. and David, G. (1996). Heparan sulfate expression in polarized epithelial cells: the apical sorting of glypican (GPI-anchored proteoglycan) is inversely related to its heparan sulfate content. *J Cell Biol.*, 132(3): 487-97.

Midorikawa, Y., Ishikawa, S., Iwanari, H., Imamura, T., Sakamoto, H., Miyazono, K., *et al.* (2003). Glypican-3, overexpressed in hepatocellular carcinoma, modulates FGF2 and BMP-7 signaling. *Int J Cancer.*, 103(4): 455-65.

Murakami, T., Kim, T., Oi, H., Nakamura, H., Igarashi, H., Matsushita, M., *et al.* (1995). Detectability of hypervascular hepatocellular carcinoma by arterial phase images of MR and spiral CT. *Acta Radiol.*, 36(4): 372-6.

Murthy, S. S., Shen, T., De Rienzo, A., Lee, W. C., Ferriola, P. C., Jhanwar, S. C., *et al.* (2000). Expression of GPC3, an X-linked recessive overgrowth gene, is silenced in malignant mesothelioma. *Oncogene.*, 19(3): 410-6.

Nakatsura, T., Kageshita, T., Ito, S., Wakamatsu, K., Monji, M., Ikuta, Y., *et al.* (2004). Identification of glypican-3 as a novel tumor marker for melanoma. *Clin Cancer Res.*, 10(19): 6612-21.

Nakatsura, T., Yoshitake, Y., Senju, S., Monji, M., Komori, H., Motomura, Y., *et al.* (2003). Glypican-3, overexpressed specifically in human hepatocellular carcinoma, is a novel tumor marker. *Biochem Biophys Res Commun.*, 306(1): 16-25.

Neri, G., Gurrieri, F., Zanni, G. and Lin, A. (1998). Clinical and molecular aspects of the Simpson-Golabi-Behmel syndrome. *Am J Med Genet.*, 79(4): 279-83.

Nomura, F., Ishijima, M., Kuwa, K., Tanaka, N., Nakai, T. and Ohnishi, K. (1999). Serum des-gamma-carboxy prothrombin levels determined by a new generation of sensitive immunoassays in patients with small-sized hepatocellular carcinoma. *Am J Gastroenterol.*, 94(3): 650-4.

Nusse, R. (2005). Wnt signaling in disease and in development. *Cell Res.*, 15(1): 28-32.

Ohkawara, B., Yamamoto, T. S., Tada, M. and Ueno, N. (2003). Role of glypican 4 in the regulation of convergent extension movements during gastrulation in *Xenopus laevis*. *Development.*, 130(10): 2129-38.

Okuda, K., Nakanuma, Y. and Miyazaki, M. (2002). Cholangiocarcinoma: recent progress. Part 1: epidemiology and etiology. *J Gastroenterol Hepatol.*, 17(10): 1049-55.

Painbeni, T., Gamelin, E., Cailleux, A., Le Bouil, A., Boisdron-Celle, M., Daver, A., *et al.* (1997). Plasma sialic acid as a marker of the effect of the treatment on metastatic colorectal cancer. *Eur J Cancer* 33(13): 2216-20.

Pellegrini, M., Pilia, G., Pantano, S., Lucchini, F., Uda, M., Fumi, M., *et al.* (1998).

Gpc3 expression correlates with the phenotype of the Simpson-Golabi-Behmel syndrome. *Dev Dyn.*, 213(4): 431-9.

Perrimon, N. and Bernfield, M. (2000). Specificities of heparan sulphate proteoglycans in developmental processes. *Nature.*, 404(6779): 725-8.

Peto, J. (2001). Cancer epidemiology in the last century and the next decade. *Nature.*, 411(6835): 390-5.

Pilia, G., Hughes-Benzie, R. M., MacKenzie, A., Baybayan, P., Chen, E. Y., Huber, R., *et al.* (1996). Mutations in GPC3, a glypican gene, cause the Simpson-Golabi-Behmel overgrowth syndrome. *Nat Genet.*, 12(3): 241-7.

Pothacharoen, P., Kalayanamitra, K., Deepa, S. S., Fukui, S., Hattori, T., Fukushima, N., *et al.* (2007). Two related but distinct chondroitin sulfate mimotope octasaccharide sequences recognized by monoclonal antibody WF6. *J Biol Chem.*

Pothacharoen, P., Siriaunkgul, S., Ong-Chai, S., Supabandhu, J., Kumja, P., Wanaphirak, C., *et al.* (2006). Raised serum chondroitin sulfate epitope level in ovarian epithelial cancer. *J Biochem (Tokyo)*, 140(4): 517-24.

Pothacharoen, P., Teekachunhatean, S., Louthrenoo, W., Yingsung, W., Ong-Chai, S., Hardingham, T., *et al.* (2006). Raised chondroitin sulfate epitopes and hyaluronan in serum from rheumatoid arthritis and osteoarthritis patients. *Osteoarthritis Cartilage*, 14(3): 299-301.

Powell, C. A., Xu, G., Filmus, J., Busch, S., Brody, J. S. and Rothman, P. B. (2002). Oligonucleotide microarray analysis of lung adenocarcinoma in smokers and nonsmokers identifies GPC3 as a potential lung tumor suppressor. *Chest*, 121(3 Suppl): 6S-7S.

Qian, G. S., Ross, R. K., Yu, M. C., Yuan, J. M., Gao, Y. T., Henderson, B. E., *et al.* (1994). A follow-up study of urinary markers of aflatoxin exposure and liver cancer risk in Shanghai, People's Republic of China. *Cancer Epidemiol Biomarkers Prev.*, 3(1): 3-10.

Saunders, S., Paine-Saunders, S. and Lander, A. D. (1997). Expression of the cell surface proteoglycan glypican-5 is developmentally regulated in kidney, limb, and brain. *Dev Biol.*, 190(1): 78-93.

Seidel, C., Sundan, A., Hjorth, M., Turesson, I., Dahl, I. M., Abildgaard, N., *et al.* (2000). Serum syndecan-1: a new independent prognostic marker in multiple myeloma. *Blood.*, 95(2): 388-92.

Selleck, S. B. (2000). Proteoglycans and pattern formation: sugar biochemistry meets developmental genetics. *Trends Genet.*, 16(5): 206-12.

Sharma, B., Handler, M., Eichstetter, I., Whitelock, J. M., Nugent, M. A. and Iozzo, R. V. (1998). Antisense targeting of perlecan blocks tumor growth and angiogenesis in vivo. *J Clin Invest.*, 102(8): 1599-608.

Sherman, M. (2001). Alphafetoprotein: an obituary. *J Hepatol.*, 34(4): 603-5.

Singhal, A. and Hakomori, S. (1990). Molecular changes in carbohydrate antigens associated with cancer. *Bioessays.*, 12(5): 223-30.

Stanley, M. J., Stanley, M. W., Sanderson, R. D. and Zera, R. (1999). Syndecan-1 expression is induced in the stroma of infiltrating breast carcinoma. *Am J Clin Pathol.*, 112(3): 377-83.

Sutcliffe, R., Maguire, D., Murphy, P., Portmann, B., Rela, M., O'Sullivan, G., *et al.* (2005). Detection and clinical significance of bone marrow micrometastases in patients undergoing liver transplantation for hepatocellular carcinoma. *Transplantation.*, 80(1): 88-94.

Taketa, K. (1990). Alpha-fetoprotein: reevaluation in hepatology. *Hepatology.*, 12(6): 1420-32.

Tang, Z. Y. (2001). Hepatocellular carcinoma--cause, treatment and metastasis. *World J Gastroenterol.*, 7(4): 445-54.

Thorgeirsson, S. S. and Grisham, J. W. (2002). Molecular pathogenesis of human hepatocellular carcinoma. *Nat Genet.*, 31(4): 339-46.

Topczewski, J., Sepich, D. S., Myers, D. C., Walker, C., Amores, A., Lele, Z., *et al.* (2001). The zebrafish glypican knypek controls cell polarity during gastrulation movements of convergent extension. *Dev Cell.*, 1(2): 251-64.

- Toretsky, J. A., Zitomersky, N. L., Eskenazi, A. E., Voigt, R. W., Strauch, E. D., Sun, C. C., *et al.* (2001). Glypican-3 expression in Wilms tumor and hepatoblastoma. *J Pediatr Hematol Oncol.*, 23(8): 496-9.
- Trevisani, F., D'Intino, P. E., Morselli-Labate, A. M., Mazzella, G., Accogli, E., Caraceni, P., *et al.* (2001). Serum alpha-fetoprotein for diagnosis of hepatocellular carcinoma in patients with chronic liver disease: influence of HBsAg and anti-HCV status. *J Hepatol.*, 34(4): 570-5.
- Tumova, S., Woods, A. and Couchman, J. R. (2000). Heparan sulfate chains from glypican and syndecans bind the Hep II domain of fibronectin similarly despite minor structural differences. *J Biol Chem.*, 275(13): 9410-7.
- VARKI, N. M. & VARKI, A. (2007) Diversity in cell surface sialic acid presentations: implications for biology and disease. *Lab Invest.*, 87: 851-7.
- Veugelers, M., De Cat, B., Ceulemans, H., Bruystens, A. M., Coomans, C., Durr, J., *et al.* (1999). Glypican-6, a new member of the glypican family of cell surface heparan sulfate proteoglycans. *J Biol Chem.*, 274(38): 26968-77.
- Vlodavsky, I., Friedmann, Y., Elkin, M., Aingorn, H., Atzmon, R., Ishai-Michaeli, R., *et al.* (1999). Mammalian heparanase: gene cloning, expression and function in tumor progression and metastasis. *Nat Med.*, 5(7): 793-802.

Wang, X. Y., Degos, F., Dubois, S., Tessitore, S., Allegretta, M., Guttman, R. D., *et al.* (2006). Glypican-3 expression in hepatocellular tumors: diagnostic value for preneoplastic lesions and hepatocellular carcinomas. *Hum Pathol.*, 37(11): 1435-41.

Watanabe, K., Yamada, H. and Yamaguchi, Y. (1995). K-glypican: a novel GPI-anchored heparan sulfate proteoglycan that is highly expressed in developing brain and kidney. *J Cell Biol.*, 130(5): 1207-18.

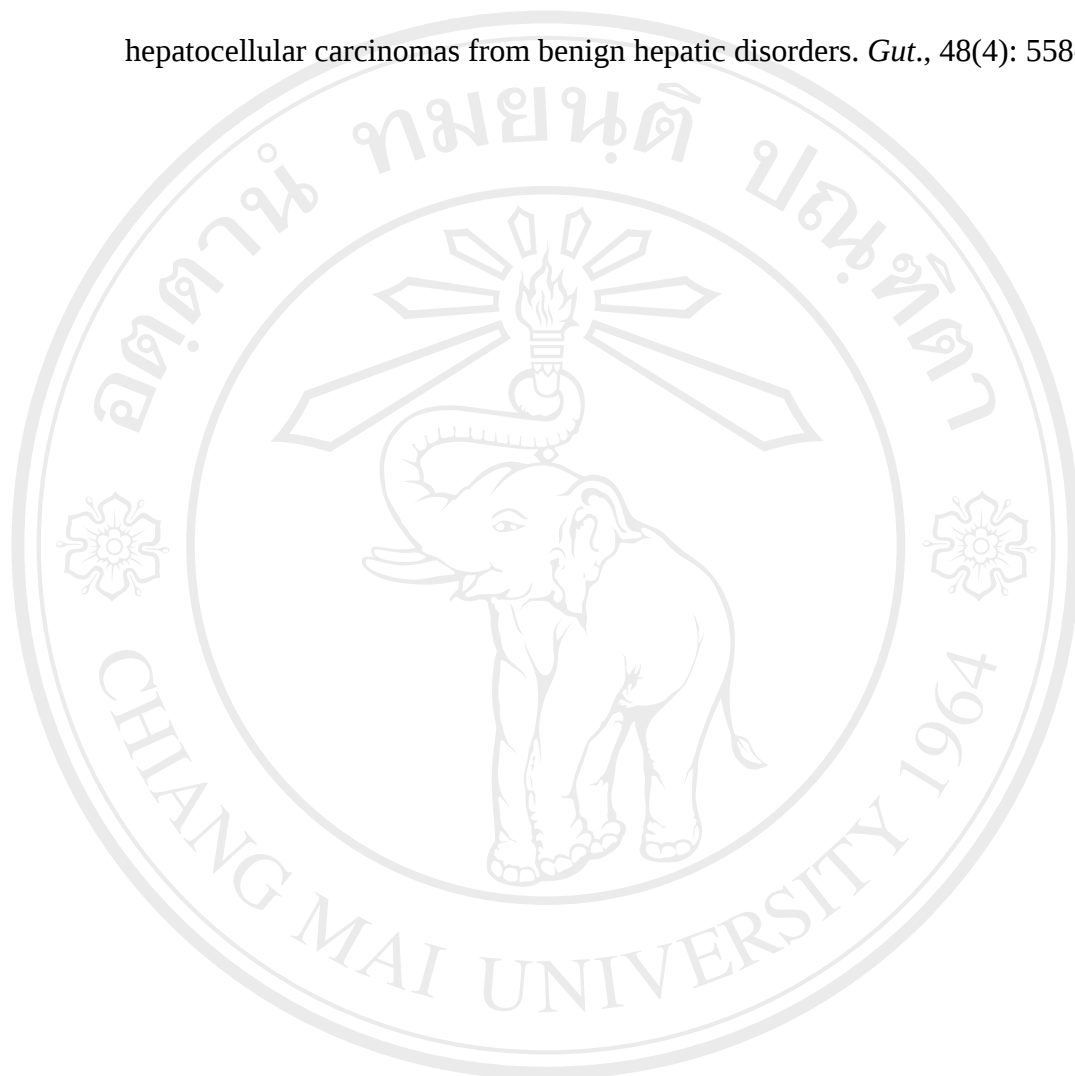
Xiang, Y. Y., Ladedo, V. and Filmus, J. (2001). Glypican-3 expression is silenced in human breast cancer. *Oncogene.*, 20(50): 7408-12.

Yamauchi, N., Watanabe, A., Hishinuma, M., Ohashi, K., Midorikawa, Y., Morishita, Y., *et al.* (2005). The glypican 3 oncofetal protein is a promising diagnostic marker for hepatocellular carcinoma. *Mod Pathol.*, 18(12): 1591-8.

Zhou, X. P., Wang, H. Y., Yang, G. S., Chen, Z. J., Li, B. A. and Wu, M. C. (2000). Cloning and expression of MXR7 gene in human HCC tissue. *World J Gastroenterol.*, 6(1): 57-60.

Zhu, Z., Friess, H., Kleeff, J., Wang, L., Wirtz, M., Zimmermann, A., *et al.* (2002). Glypican-3 expression is markedly decreased in human gastric cancer but not in esophageal cancer. *Am J Surg.*, 184(1): 78-83.

Zhu, Z. W., Friess, H., Wang, L., Abou-Shady, M., Zimmermann, A., Lander, A. D.,
et al. (2001). Enhanced glypican-3 expression differentiates the majority of
hepatocellular carcinomas from benign hepatic disorders. *Gut.*, 48(4): 558-64.



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