

- esophageal squamous-cell carcinoma. *Oncogene* 26, 6456–6468 (2007).
- 58 Sugino Y, Misawa A, Inoue J *et al.*: Epigenetic silencing of prostaglandin E receptor 2 (PTGER2) is associated with progression of neuroblastomas. *Oncogene* 26, 7401–7413 (2007).
- 59 McDonald FE, Morris MR, Gentle D *et al.*: CpG methylation profiling in VHL related and VHL unrelated renal cell carcinoma. *Mol. Cancer Res.* 8, 31–41 (2009).
- 60 Arai E, Ushijima S, Fujimoto H *et al.*: Genome-wide DNA methylation profiles in both precancerous conditions and clear cell renal cell carcinomas are correlated with malignant potential and patient outcome. *Carcinogenesis* 30, 214–221 (2009).
- Genome-wide DNA methylation profiles in precancerous conditions of the kidney have been shown to be inherited by clear cell renal cell carcinomas developing in each individual patient, and to determine tumor aggressiveness and patient outcome.
- 61 Arai E, Kanai Y, Ushijima S, Fujimoto H, Mukai K, Hirohashi S: Regional DNA hypermethylation and DNA methyltransferase (DNMT) 1 protein overexpression in both renal tumors and corresponding nontumorous renal tissues. *Int. J. Cancer* 119, 288–296 (2006).
- 62 Arai E, Ushijima S, Tsuda H *et al.*: Genetic clustering of clear cell renal cell carcinoma based on array-comparative genomic hybridization: its association with DNA methylation alteration and patient outcome. *Clin. Cancer Res.* 14, 5531–5539 (2008).
- 63 Lee HS, Kim BH, Cho NY *et al.*: Prognostic implications of and relationship between CpG island hypermethylation and repetitive DNA hypomethylation in hepatocellular carcinoma. *Clin. Cancer Res.* 15, 812–820 (2009).
- 64 Moribe T, Iizuka N, Miura T *et al.*: Methylation of multiple genes as molecular markers for diagnosis of a small, well-differentiated hepatocellular carcinoma. *Int. J. Cancer* 125, 388–397 (2009).
- 65 Arai E, Ushijima S, Gotoh M *et al.*: Genome-wide DNA methylation profiles in liver tissue at the precancerous stage and in hepatocellular carcinoma. *Int. J. Cancer* 125, 2854–2862 (2009).
- Indicators for carcinogenetic risk estimation in chronically diseased liver, and prognostication of patients with hepatocellular carcinomas, have been established based on BAMCA data.
- 66 Kakizoe T: Development and progression of urothelial carcinoma. *Cancer Sci.* 97, 821–828 (2006).
- 67 Nakagawa T, Kanai Y, Ushijima S, Kitamura T, Kakizoe T, Hirohashi S: DNA hypermethylation on multiple CpG islands associated with increased DNA methyltransferase DNMT1 protein expression during multistage urothelial carcinogenesis. *J. Urol.* 173, 1767–1771 (2005).
- 68 Nakagawa T, Kanai Y, Saito Y, Kitamura T, Kakizoe T, Hirohashi S: Increased DNA methyltransferase 1 protein expression in human transitional cell carcinoma of the bladder. *J. Urol.* 170, 2463–2466 (2003).
- 69 Manabe D, Saika T, Ebara S *et al.*: Comparative study of oncologic outcome of laparoscopic nephroureterectomy and standard nephroureterectomy for upper urinary tract transitional cell carcinoma. *Urology* 69, 457–461 (2007).
- 70 Kim WJ, Kim YJ: Epigenetic markers as promising prognosticators for bladder cancer. *Int. J. Urol.* 16, 17–22 (2009).

