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## Ras相关区域家族基因启动子甲基化改变与肿瘤发生相关性的研究进展

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关键词: Ras相关区域家族

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### 参考文献:

- [1] Downward J. Targeting RAS signalling pathways in cancer therapy. Nat Rev Cancer [PubMed]
- [2] Dammann R, Li C, Yoon JH, et al. Epigenetic inactivation of a RAS association domain from the lung tumour suppressor locus 3p21.3. Nat. Genet, 2000, 25:315-319. :[PubMed]
- [3] Van der Weyden L, Adams DJ. The Ras-association domain family (RASSF) members and human tumorigenesis. Biochim Biophys Acta, 2007, 1776:58-85. :[PubMed]
- [4] Lerman MI, Minna JD. The 630-kb lung cancer homozygous deletion region on human chromosome 3p21.3: identification and evaluation of the resident candidate tumor suppressor gene. Lung Cancer Chromosome 3p21.3 Tumor Suppressor Gene Consortium. Cancer Res, 2000, 60:61
- [5] Burbee DG, Forgacs E, Zschbauer-Müller S, et al. Epigenetic inactivation of RASSF1A in human breast cancer and malignant phenotype suppression. J Natl Cancer Inst, 2001, 93:691-699
- [6] Calvisi DF, Evert M, Dombrowski F. Pathogenetic and prognostic significance of RASSF proteins in human hepatocellular carcinoma. Mol Biol Int, 2012, 2012:849874. :[PubMed]
- [7] Pelosi G, Fumagalli C, Trubia M, et al. Dual role of RASSF1 as a tumor suppressor in neuroendocrine tumors of the lung. Anticancer Res, 2010, 30:4269-4281. :[PubMed]
- [8] Vos MD, Ellis CA, Bell A, et al. Ras uses the novel tumor suppressor RASSF1 as a mediator to mediate apoptosis. J Biol Chem, 2000, 275:35669-35672. :[PubMed]
- [9] Li J, Wang F, Protopopov A, et al. Inactivation of RASSF1C during in vivo tumor

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as a tumor suppressor gene. *Oncogene*, 2004, 23:5941–5949. : [[PubMed](#)]

[10] Amaar YG, Minera MG, Hatran LK, et al. Ras association domain family 1C protein lung cancer cell proliferation. *Am J Physiol Lung Cell Mol Physiol*, 2006, 291:L1185–119

[11] Malpeli G, Amato E, Dandrea M, et al. Methylation-associated down-regulation of regulation of RASSF1C in pancreatic endocrine tumors. *BMC Cancer*, 2011, 11:351. : [[PubMed](#)]

[12] Agathangelou A, Cooper WN, Latif F. Role of the Rasassociation domain family gene in human cancers. *Cancer Res*, 2005, 65:3497–3508. : [[PubMed](#)]

[13] Hesson LB, Wilson R, Morton D, et al. CpG island promoter hypermethylation of a gene RASSF2A is an early event in colon carcinogenesis and correlates inversely with mutations. *Oncogene*, 2005, 24:3987–3994. : [[PubMed](#)]

[14] Vos MD, Ellis CA, Elam C, et al. RASSF2 is a novel K-Ras-specific effector and suppressor. *J Biol Chem*, 2003, 278:28045–28051. : [[PubMed](#)]

[15] Park HW, Kang HC, Kim IJ, et al. Correlation between hypermethylation of the RAS K-ras/BRAF mutations in microsatellite-stable colorectal cancers. *Int J Cancer*, 2007, 1

[16] Kaira K, Sunaga N, Tomizawa Y, et al. Epigenetic inactivation of the RAS-effect lung cancers. *Int Oncol*, 2007, 31:169–173. : [[PubMed](#)]

[17] Zhao L, Cui Q, Lu Z, et al. Aberrant methylation of RASSF2A in human pancreatic adenocarcinoma and its relation to clinicopathologic features. *Pancreas*, 2012, 41:206–2

[18] Hull J, Rowlands K, Lockhart E, et al. Haplotype mapping of the bronchiolitis s near IL8. *Hum Genet*, 2004, 114:272–279. : [[PubMed](#)]

[19] Chen L, Johnson RC, Milgram SL. P-CIP1, a novel protein that interacts with the peptidylglycine alpha-amidating monooxygenase, is associated with endosomes. *J Biol Ch* 33532. : [[PubMed](#)]

[20] Ikeda M, Hirabayashi S, Fujiwara N, et al. Ras-association domain family protein apoptosis via both caspase-dependent and caspase-independent pathways. *Exp Cell Res*, 2 [[PubMed](#)]

[21] Allen NP, Donniger H, Vos MD, et al. RASSF6 is a novel member of the RASSF fam suppressors. *Oncogene*, 2007, 26:6203–6211. : [[PubMed](#)]

[22] Hesson LB, Dunwell TI, Cooper WN, et al. The novel RASSF6 and RASSF10 candidate genes are frequently epigenetically inactivated in childhood leukaemias. *Mol Cancer*, 2

[23] Wen Y, Wang Q, Zhou C, et al. Decreased expression of RASSF6 is a novel independ marker of a worse outcome in gastric cancer patients after curative surgery. *Ann Surg* 3867. : [[PubMed](#)]

[24] Sherwood V, Manbodh R, Sheppard C, et al. RASSF7 is a member of a new family of domain-containing proteins and is required of completing mitosis. *Mol Biol Cell*, 2008 [[PubMed](#)]

[25] Schagdarsurengin U, Ritcher AM, Wohler C, et al. Frequent epigenetic inactivation of RASSF1A in human thyroid cancer. *Epigenetics*, 2009, 4:571–576. :[\[PubMed\]](#)

[26] Hill VK, Underhill-Day N, Krex D, et al. Epigenetic inactivation of the RASSF10 tumor suppressor gene is a frequent and early event in gliomagenesis. *Oncogene*, 2011, 30:978–987. :[\[PubMed\]](#)

[27] Helmbold P, Richter AM, Walesch S, et al. RASSF10 promoter hypermethylation is frequent in malignant melanoma of the skin but uncommon in nevus cell nevi. *J Invest Dermatol*, 2011, 121:100–105. :[\[PubMed\]](#)

[28] Dansranjavin T, Wagenlehner F, Gattenloehner S, et al. Epigenetic down regulation of RASSF1A: its possible clinical implication in prostate carcinoma. *Prostate*, 2012. :[\[PubMed\]](#)

[29] Tommasi S, Dammann R, Jin SG, et al. RASSF3 and NORE1: identification and cloning of two novel homologues of the putative tumor suppressor gene RASSF1. *Oncogene*, 2002, 21:2713–2720. :[\[PubMed\]](#)

[30] Hesson L, Bieche I, Krex D, et al. Frequent epigenetic inactivation of RASSF1A in gliomas located within the critical 3p21.3 region in gliomas. *Oncogene*, 2004, 23:2408–2419. :[\[PubMed\]](#)

[31] Eckfeld K, Hesson L, Vos MD, et al. RASSF4/AD037 is a potential ras effector/tumor suppressor in the RASSF family. *Cancer Res*, 2004, 64:8688–8693. :[\[PubMed\]](#)

[32] Chow LS, Lo KW, Kwong J, et al. Aberrant methylation of RASSF4/AD037 in nasopharyngeal carcinoma. *Oncol Rep*, 2004, 12:781–787. :[\[PubMed\]](#)

[33] Dumur CI, Dechsukhum C, Ware JL, et al. Genome-wide detection of LOH in prostate cancer using SNP microarray technology. *Genomics*, 81:260–269. :[\[PubMed\]](#)

[34] Vawas D, Li X, Avruch J, et al. Identification of Norel as a potential Ras effector. *Biochem Biophys Res Commun*, 1998, 273:5439–5442. :[\[PubMed\]](#)

[35] Tommasi S, Dammann R, Jin SG, et al. RASSF3 and NORE1: identification and cloning of two novel homologues of the putative tumor suppressor gene RASSF1. *Oncogene*, 2002, 21:2713–2720. :[\[PubMed\]](#)

[36] Steiner G, Cairns P, Polascik TJ, et al. High-density mapping of chromosomal alterations in human collecting duct carcinoma: region of minimal deletion at 1q32.1–32.2. *Cancer Res*, 1996, 56:1000–1005. :[\[PubMed\]](#)

[37] Riemenschneider MJ, Buschges R, Wolter M, et al. Amplification and overexpression of the RASSF1A gene from 1q32 in a subset of malignant gliomas without TP53 mutation or MDM2 amplification. *Cancer Res*, 1999, 59:6091–6096. :[\[PubMed\]](#)

[38] Chen J, Lui WO, Vos MD, et al. The t(1;3) breakpoint-spanning genes LSAMP and NORE1 are overexpressed in clear cell renal cell carcinomas. *Cancer Cell*, 2003, 4:405–413. :[\[PubMed\]](#)

[39] Vos MD, Martinez A, Ellis CA, et al. The pro-apoptotic Ras effector Norel may serve as a novel down-regulated tumor suppressor in the lung. *J Biol Chem*, 2003, 278:21938–21943. :[\[PubMed\]](#)

[40] Recimo A, Sherwood V, Flaxman A, et al. Human RASSF7 regulates the microtubule network and is required for spindle formation, Aurora B activation and chromosomal congression during mitosis. *J Cell Biol*, 2010, 189:207–213. :[\[PubMed\]](#)

- [41] Brandt R, Grutzmann R, Bauer A, et al. DNA microarray analysis of pancreatic malignancies. *Pancreatology*, 2004, 4:587-597. :[\[PubMed\]](#)
- [42] Lowe AW, Olsen M, Hao Y, et al. Gene expression patterns tumors, cells and tissue. *One*, 2007, 2:e323. :[\[PubMed\]](#)
- [43] Mutter GL, Baak JP, Fitzgerald JT, et al. Global expression changes of constitutively regulated genes during endometrial neoplastic transformation. *Gynecol Oncol*, 2001, 83:1-10.
- [44] Tan DS, Lambros MB, Rayter S, et al. PPM1D is a potential therapeutic target in pancreatic carcinomas. *Clin Cancer Res*, 2009, 15:2269-2280. :[\[PubMed\]](#)
- [45] Camps C, Buffa FM, Cloella S, et al. has-miR-210 Is induced by hypoxia and is a prognostic factor in breast cancer. *Clin Cancer Res*, 2008, 14:1340-1348. :[\[PubMed\]](#)
- [46] Welsh PL, Lee MK, Gonzalez-Hernandez RM, et al. BRCA1 transcriptionally regulates p53 in breast tumorigenesis. *Proc Natl Acad Sci U S A*, 2002, 99:7560-7565. :[\[PubMed\]](#)
- [47] Falvella FS, Spinola M, Manenti G, et al. Common polymorphisms in D12S1034 flanking region and BHLHB3 are not associated with lung adenocarcinoma risk. *Lung Cancer*, 2007, 56:1-7.
- [48] Lock FE, Underhill-Day N, Dunwell T, et al. The RASSF8 candidate tumor suppressor gene inhibits cell growth and regulates the Wnt and NFkappaB signaling pathways. *Oncogene*, 2010, 29:4307-4315.
- [49] Yanagitani N, Kohno T, Sunaga N, et al. Localization of a human lung adenocarcinoma susceptibility locus, possibly syntenic to the mouse Pas1 locus, in the vicinity of the D12S1034 locus on chromosome 12p11.2-p12.1. *Carcinogenesis*, 2002, 23:1177-1183. :[\[PubMed\]](#)
- [50] Falvella FS, Manenti G, Spinola M, et al. Identification of RASSF8 as a candidate tumor suppressor gene. *Oncogene*, 2006, 25:3934-3938. :[\[PubMed\]](#)
- [51] Rykova Elu, Skvortsova TE, Hoffmann AL, et al. Breast cancer diagnostics based on microRNA and RNA circulating in blood. *Biomed Khim*, 2008, 54:94-103. :[\[PubMed\]](#)
- [52] Alam MR, Caldwell BD, Johnson RC, et al. Novel proteins that interact with the cytosolic routing determinants of an integral membrane peptide-processing enzyme. *J Biol Chem*, 1996, 271:28636-28640. :[\[PubMed\]](#)

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