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6卷11期 2012年6月 [最新]



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NOB1基因研究进展

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摘要: NOB1[NIN1/RPN12 binding protein 1 homolog (*S. cerevisiae*)]是一个多功能的蛋白质, 它不仅和19S核糖体调节亚基的组分结合而且在20S蛋白酶体成熟过程中也发挥重要作用。同时NOB1还参与核糖体合成, NOB1和20S前体rRNA结合, NOB1缺失导致18S rRNA不能合成, 20S前体rRNA堆集。因此, NOB1表达发生改变, 会直接影响核糖体和蛋白酶体的生物合成, 而核糖体和蛋白酶体发生改变, 与肿瘤的发生、发展、转移和肿瘤抑制有关。基于这层关系, 我们认为NOB1在肿瘤治疗方面也将发挥重要的作用。现将NOB1基因的研究进展综述如下。

关键词: 基因

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文献标引: 贺孝文. NOB1基因研究进展[J/CD]. 中华临床医师杂志: 电子版, 2011, 5(8):2360-2363. [\[复制\]](#)

参考文献:

- [1] Zhang Y, Ni J, Zhou G, et al. Cloning, expression and characterization of the human NOB1 gene. *Mol Biol Rep*, 2005, 32: 185-189.
- [2] Fatica A, Oeffinger M, Dlakic' M, et al. Nob1p is required for cleavage of the 3' end of 18S rRNA. *Mol Cell Biol*, 2003, 23: 1798-1807.
- [3] Tone Y, Toh-e A. Nob1p is required for biogenesis of the 26S proteasome and degraded upon its maturation in *Saccharomyces cerevisiae*. *Genes Dev*, 2002, 16: 3142-3157.
- [4] Thomas F, Kutay U. Biogenesis and nuclear export of ribosomal subunits in higher eukaryotes depend on the CRM1 export pathway. *J Cell Sci*, 2003, 116: 2409-2419.
- [5] Russell J, Zomerdijk JC. RNA-polymerase-I-directed rDNA transcription, life and works. *Trends Biochem Sci*, 2005, 30: 87-96.
- [6] Ferreira-Cerca S, P 11 G, Gleizes PE, et al. Roles of eukaryotic ribosomal proteins in maturation and transport of pre-18S rRNA and ribosome function. *Mol Cell*, 2005, 20: 263-275.
- [7] Ferreira-Cerca S, P 11 G, Kühn H, et al. Analysis of the in vivo assembly pathway of eukaryotic 40S ribosomal proteins. *Mol Cell*, 2007, 28: 446-457.
- [8] Sch fer T, Maco B, Petfalski E, et al. Hrr25-dependent phosphorylation state regulates organization of the pre-40S subunit. *Nature*, 2006, 441: 651-655.
- [9] Sch fer T, Strauss D, Petfalski E, et al. The path from nucleolar 90S to cytoplasmic 40S pre-ribosomes. *EMBO J*, 2003, 22: 1370-1380.
- [10] Fatica A, Tollervey D, Dlakic' M. PIN domain of Nob1p is required for D-site cleavage in 20S pre-rRNA. *RNA*, 2004, 10: 1698-1701.
- [11] Granneman S, Nandineni MR, Baserga SJ. The putative NTPase Fap7 mediates cytoplasmic 20S pre-rRNA processing through a direct interaction with Rps14. *Mol Cell Biol*, 2005, 25: 10352-10364.
- [12] Jakovljevic J, de Mayolo PA, Miles TD, et al. The carboxy-terminal extension of yeast ribosomal protein S14 is necessary for maturation of 43S preribosomes. *Mol Cell*, 2004, 14: 331-342.
- [13] Gelperin D, Horton L, Beckman J, et al. Bms1p, a novel GTP-binding protein, and the related Tsrlp are required for distinct steps of 40S ribosome biogenesis in yeast. *RNA*, 2001, 7: 1268-1283.
- [14] Vanrobays E, Gelugne JP, Gleizes PE, et al. Late Cytoplasmic Maturation of the Small Ribosomal Subunit Requires RIO Proteins in *Saccharomyces cerevisiae*. *Mol Cell Biol*, 2003, 23: 2083-2095.
- [15] Lamanna AC, Karbstein K. Nob1 binds the single-stranded cleavage site D at the 3' -end of 18S rRNA with its PIN domain. *Proc Natl Acad Sci U S A*, 2009, 106: 14259-14264.
- [16] Glickman MH, Rubin DM, Coux O, et al. A subcomplex of the proteasome regulatory particle required for ubiquitin-conjugate degradation and related to the COP9-signalosome and eIF3. *Cell*, 1998, 94: 615-623.
- [17] Saeki Y, Toh-e A, Yokosawa H. Rapid isolation and characterization of the yeast proteasome regulatory complex. *Biochem Biophys Res Commun*, 2000, 273: 509-515.
- [18] Tone Y, Tanahashi N, Tanaka K, et al. Nob1p, a new essential protein, associates with the 26S

- proteasome of growing *Saccharomyces cerevisiae* cells. *Gene*, 2000, 243: 37–45.
- [19] Chen P, Hochstrasser M. Autocatalytic subunit processing couples active site formation in the 20S proteasome to completion of assembly. *Cell*, 1996, 86: 961–972.
- [20] Ramos PC, Hckendorff J, Johnson ES, et al. Ump1p is required for proper maturation of the 20S proteasome and becomes its substrate upon completion of the assembly. *Cell*, 1998, 92: 489–499.
- [21] Lehmann A, Janek K, Braun B, et al. 20 S proteasomes are imported as precursor complexes into the nucleus of yeast. *J Mol Biol*, 2002, 317: 401–413.
- [22] Ciechanover A, Finley D, Varshavsky A. Ubiquitin dependence of selective protein degradation demonstrated in the mammalian cell cycle mutant ts85. *Cell*, 1984, 37: 57–66.
- [23] Ciechanover A, DiGiuseppe JA, Bercovich B, et al. Degradation of nuclear oncoproteins by the ubiquitin system in vitro. *Proc Natl Acad Sci U S A*, 1991, 88: 139–143.
- [24] Lin Y, Peng S, Yu H, et al. RNAi-mediated downregulation of NOB1 suppresses the growth and colony-formation ability of human ovarian cancer cells. *Med Oncol*, 2011.
- [25] Nomura M. Ribosomal RNA Genes, RNA Polymerases, Nucleolar Structures, and Synthesis of rRNA in the Yeast *Saccharomyces cerevisiae*. *Cold Spring Harb Symp Quant Biol*, 2001, 66: 555–566.
- [26] Bullwinkel J, Baron-Lühr B, Lüdemann A, et al. Ki-67 protein is associated with ribosomal RNA transcription in quiescent and proliferating cells. *J Cell Physiol*, 2006, 206: 624–635.
- [27] Sheng Z, Liang Y, Lin CY, et al. Direct regulation of rRNA transcription by fibroblast growth factor 2. *Mol Cell Biol*, 2005, 25: 9419–9426.
- [28] Ayraut O, Andriko L, Fauvin D, et al. Human tumor suppressor p14ARF negatively regulates rRNA transcription and inhibits UBF1 transcription factor phosphorylation. *Oncogene*, 2006, 25: 7577–7786.
- [29] Raychaudhuri S, Fontanes V, Barat B, et al. Activation of Ribosomal RNA Transcription by Hepatitis C Virus Involves Upstream Binding Factor Phosphorylation via Induction of Cyclin D1. *Cancer Res*, 2009, 69: 2057–2064.
- [30] Meraner J, Lechner M, Loidl A, et al. Acetylation of UBF changes during the cell cycle and regulates the interaction of UBF with RNA polymerase I. *Nucleic Acids Res*, 2006, 34: 1798–1806.
- [31] Simone C, Resta N, Bagella L, et al. Cyclin E and chromosome instability in colorectal cancer cell lines. *Mol Pathol*, 2002, 55: 200–203.
- [32] Moreira Júnior G, Colleoni GW, Cangi MG, et al. Reciprocal Cdc25A and p27 expression in B-cell non-Hodgkin lymphomas. *Diagn Mol Pathol*, 2003, 12: 128–132.
- [33] Monticone M, Biollo E, Fabiano A, et al. z-Leucinyl-Leucinyl-Norleucinal Induces Apoptosis of Human Glioblastoma Tumor-Initiating Cells by Proteasome Inhibition and Mitotic Arrest Response. *Mol Cancer Res*, 2009, 7: 1822–1834.
- [34] Chen D, Shakya R, Cindy Cui Q, et al. Inhibition of the Proteasome Activity by Gallium(III) Complexes Contributes to Their Anti-Prostate Tumor Effects. *Cancer Res*, 2007, 67: 9258–9265.

综述

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龙艺, 贾赤宇. . 中华临床医师杂志: 电子版
2011;5(8):2320–2323.

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2011;5(8):2343-2346.

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2011;5(8):2353-2356.

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2011;5(8):2357-2359.

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NOB1基因研究进展

贺孝文. . 中华临床医师杂志: 电子版
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王兴, 吴绮思, 肖占琴, 陈阳美. . 中华临床医师杂志: 电子版
2011;5(8):2364-2367.

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庞云, 王子健, 韩润林, 笪青. . 中华临床医师杂志: 电子版
2011;5(8):2368-2373.

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