World Journal of *Gastrointestinal Oncology*

World J Gastrointest Oncol 2024 August 15; 16(8): 3368-3740





Published by Baishideng Publishing Group Inc

W I G G World Journal of Gastrointestinal Oncology

Contents

Monthly Volume 16 Number 8 August 15, 2024

EDITORIAL

3368	Remazolam combined with transversus abdominis plane block in gastrointestinal tumor surgery: Have we achieved better anesthetic effects?
	Cao J, Luo XL, Lin Q
3372	Immune-related gene characteristics: A new chapter in precision treatment of gastric cancer
	Gao L, Lin Q
3376	Navigating the labyrinth of long non-coding RNAs in colorectal cancer: From chemoresistance to autophagy
	Yu JM, Sun CQ, Xu HH, Jiang YL, Jiang XY, Ni SQ, Zhao TY, Liu LX
3382	Importance of early detection of esophageal cancer before the tumor progresses too much for effective treatment
	Ono T
3386	Early diagnosis of esophageal cancer: How to put "early detection" into effect?
	Pubu S, Zhang JW, Yang J
3393	Colon cancer screening: What to choose?
	Gomez Zuleta MA

REVIEW

3397 Research progress on the development of hepatocyte growth factor/c-Met signaling pathway in gastric cancer: A review

Wei WJ, Hong YL, Deng Y, Wang GL, Qiu JT, Pan F

3410 Research progress on the effect of pyroptosis on the occurrence, development, invasion and metastasis of colorectal cancer

Wang X, Yin QH, Wan LL, Sun RL, Wang G, Gu JF, Tang DC

MINIREVIEWS

Importance of diet and intestinal microbiota in the prevention of colorectal cancer - colonoscopy early 3428 screening diagnosis

Jovandaric MZ

ORIGINAL ARTICLE

Retrospective Cohort Study

Analysis of vascular thrombus and clinicopathological factors in prognosis of gastric cancer: A 3436 retrospective cohort study

Chen GY, Ren P, Gao Z, Yang HM, Jiao Y



Contra	World Journal of Gastrointestinal Oncology
Contents Monthly Volume 16 Number 8 August 15, 202	
3445	Application of fecal immunochemical test in colorectal cancer screening: A community-based, cross- sectional study in average-risk individuals in Hainan
	Zeng F, Zhang DY, Chen SJ, Chen RX, Chen C, Huang SM, Li D, Zhang XD, Chen JJ, Mo CY, Gao L, Zeng JT, Xiong JX, Chen Z, Bai FH
3457	Effect of perioperative chemotherapy on resection of isolated pulmonary metastases from colorectal cancer: A single center experience
	Gao Z, Jin X, Wu YC, Zhang SJ, Wu SK, Wang X
	Retrospective Study
3471	Microvascular structural changes in esophageal squamous cell carcinoma pathology according to intrapapillary capillary loop types under magnifying endoscopy
	Shu WY, Shi YY, Huang JT, Meng LM, Zhang HJ, Cui RL, Li Y, Ding SG
3481	Camrelizumab, apatinib and hepatic artery infusion chemotherapy combined with microwave ablation for advanced hepatocellular carcinoma
	Zuo MX, An C, Cao YZ, Pan JY, Xie LP, Yang XJ, Li W, Wu PH
3496	Serum ferritin and the risk of early-onset colorectal cancer
	Urback AL, Martens K, McMurry HS, Chen EY, Citti C, Sharma A, Kardosh A, Shatzel JJ
3507	Combining lymph node ratio to develop prognostic models for postoperative gastric neuroendocrine neoplasm patients
	Liu W, Wu HY, Lin JX, Qu ST, Gu YJ, Zhu JZ, Xu CF
	Observational Study
3521	Efficacy of chemotherapy containing bevacizumab in patients with metastatic colorectal cancer according to programmed cell death ligand 1
	Kang SW, Lim SH, Kim MJ, Lee J, Park YS, Lim HY, Kang WK, Kim ST
3529	Endoscopic detection and diagnostic strategies for minute gastric cancer: A real-world observational study
	Ji XW, Lin J, Wang YT, Ruan JJ, Xu JH, Song K, Mao JS
	Clinical and Translational Research
3539	Targeting colorectal cancer with Herba Patriniae and Coix seed: Network pharmacology, molecular docking, and <i>in vitro</i> validation
	Wang CL, Yang BW, Wang XY, Chen X, Li WD, Zhai HY, Wu Y, Cui MY, Wu JH, Meng QH, Zhang N
	Basic Study
3559	Expression and significant roles of the long non-coding RNA CASC19/miR-491-5p/HMGA2 axis in the development of gastric cancer
	Zhang LX, Luo PQ, Wei ZJ, Xu AM, Guo T
3585	Insulin-like growth factor 2 targets IGF1R signaling transduction to facilitate metastasis and imatinib resistance in gastrointestinal stromal tumors
	Li DG, Jiang JP, Chen FY, Wu W, Fu J, Wang GH, Li YB

Conte	World Journal of Gastrointestinal Oncology		
	Monthly Volume 16 Number 8 August 15, 2024		
3600	Dysbiosis promotes recurrence of adenomatous polyps in the distal colorectum		
	Yin LL, Qi PQ, Hu YF, Fu XJ, He RS, Wang MM, Deng YJ, Xiong SY, Yu QW, Hu JP, Zhou L, Zhou ZB, Xiong Y, Deng H		
3624	Effect of acacetin on inhibition of apoptosis in Helicobacter pylori-infected gastric epithelial cell line		
	Yao QX, Li ZY, Kang HL, He X, Kang M		
3635	Curcumin for gastric cancer: Mechanism prediction <i>via</i> network pharmacology, docking, and <i>in vitro</i> experiments		
	Yang PH, Wei YN, Xiao BJ, Li SY, Li XL, Yang LJ, Pan HF, Chen GX		
3651	Lecithin-cholesterol acyltransferase is a potential tumor suppressor and predictive marker for hepato- cellular carcinoma metastasis		
	Li Y, Jiang LN, Zhao BK, Li ML, Jiang YY, Liu YS, Liu SH, Zhu L, Ye X, Zhao JM		
	META-ANALYSIS		
3672	Efficacy of hepatic arterial infusion chemotherapy and its combination strategies for advanced hepato- cellular carcinoma: A network meta-analysis		
	Zhou SA, Zhou QM, Wu L, Chen ZH, Wu F, Chen ZR, Xu LQ, Gan BL, Jin HS, Shi N		
	SCIENTOMETRICS		
3687	Current trends and hotspots of depressive disorders with colorectal cancer: A bibliometric and visual study		
	Yan ZW, Liu YN, Xu Q, Yuan Y		
3705	Research status and hotspots of tight junctions and colorectal cancer: A bibliometric and visualization analysis		
	Li HM, Liu Y, Hao MD, Liang XQ, Yuan DJ, Huang WB, Li WJ, Ding L		
	CASE REPORT		
3716	Aggressive fibromatosis of the sigmoid colon: A case report		
	Yu PP, Liu XC, Yin L, Yin G		
3723	Jejunal sarcomatoid carcinoma: A case report and review of literature		
	Feng Q, Yu W, Feng JH, Huang Q, Xiao GX		
	LETTER TO THE EDITOR		
3732	Current and future research directions in cellular metabolism of colorectal cancer: A bibliometric analysis		
	Jiang BW, Zhang XH, Ma R, Luan WY, Miao YD		
3738	Risk factors for the prognosis of colon cancer		
	Wu CY, Ye K		



Contents

World Journal of Gastrointestinal Oncology

Monthly Volume 16 Number 8 August 15, 2024

ABOUT COVER

Editorial Board of World Journal of Gastrointestinal Oncology, Salem Youssef Mohamed, MD, Professor, Gastroenterology and Hepatology Unit, Department of Internal Medicine, Zagazig University, Zagazig 44516, Egypt. salemyousefmohamed@gmail.com

AIMS AND SCOPE

The primary aim of World Journal of Gastrointestinal Oncology (WJGO, World J Gastrointest Oncol) is to provide scholars and readers from various fields of gastrointestinal oncology with a platform to publish high-quality basic and clinical research articles and communicate their research findings online.

WJGO mainly publishes articles reporting research results and findings obtained in the field of gastrointestinal oncology and covering a wide range of topics including liver cell adenoma, gastric neoplasms, appendiceal neoplasms, biliary tract neoplasms, hepatocellular carcinoma, pancreatic carcinoma, cecal neoplasms, colonic neoplasms, colorectal neoplasms, duodenal neoplasms, esophageal neoplasms, gallbladder neoplasms, etc.

INDEXING/ABSTRACTING

The WJGO is now abstracted and indexed in PubMed, PubMed Central, Science Citation Index Expanded (SCIE, also known as SciSearch®), Journal Citation Reports/Science Edition, Scopus, Reference Citation Analysis, China Science and Technology Journal Database, and Superstar Journals Database. The 2024 edition of Journal Citation Reports[®] cites the 2023 journal impact factor (JIF) for WJGO as 2.5; JIF without journal self cites: 2.5; 5-year JIF: 2.8; JIF Rank: 71/143 in gastroenterology and hepatology; JIF Quartile: Q2; and 5-year JIF Quartile: Q2. The WJGO's CiteScore for 2023 is 4.2 and Scopus CiteScore rank 2023: Gastroenterology is 80/167; Oncology is 196/404.

RESPONSIBLE EDITORS FOR THIS ISSUE

Production Editor: Si Zhao; Production Department Director: Xiang Li; Cover Editor: Jia-Ru Fan.

NAME OF JOURNAL	INSTRUCTIONS TO AUTHORS
World Journal of Gastrointestinal Oncology	https://www.wjgnet.com/bpg/gerinfo/204
ISSN	GUIDELINES FOR ETHICS DOCUMENTS
ISSN 1948-5204 (online)	https://www.wjgnet.com/bpg/GerInfo/287
LAUNCH DATE	GUIDELINES FOR NON-NATIVE SPEAKERS OF ENGLISH
February 15, 2009	https://www.wjgnet.com/bpg/gerinfo/240
FREQUENCY	PUBLICATION ETHICS
Monthly	https://www.wjgnet.com/bpg/GerInfo/288
EDITORS-IN-CHIEF	PUBLICATION MISCONDUCT
Monjur Ahmed, Florin Burada	https://www.wjgnet.com/bpg/gerinfo/208
EDITORIAL BOARD MEMBERS	ARTICLE PROCESSING CHARGE
https://www.wjgnet.com/1948-5204/editorialboard.htm	https://www.wjgnet.com/bpg/gerinfo/242
PUBLICATION DATE	STEPS FOR SUBMITTING MANUSCRIPTS
August 15, 2024	https://www.wjgnet.com/bpg/GerInfo/239
COPYRIGHT	ONLINE SUBMISSION
© 2024 Baishideng Publishing Group Inc	https://www.f6publishing.com

© 2024 Baishideng Publishing Group Inc. All rights reserved. 7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA E-mail: office@baishideng.com https://www.wjgnet.com



 \mathcal{O} WŪ

World Journal of **Gastrointestinal** Oncology

Submit a Manuscript: https://www.f6publishing.com

World J Gastrointest Oncol 2024 August 15; 16(8): 3376-3381

DOI: 10.4251/wjgo.v16.i8.3376

ISSN 1948-5204 (online)

EDITORIAL

Navigating the labyrinth of long non-coding RNAs in colorectal cancer: From chemoresistance to autophagy

Jia-Mei Yu, Chong-Qi Sun, Huan-Huan Xu, Ya-Li Jiang, Xing-Yu Jiang, Si-Qi Ni, Ting-Yu Zhao, Ling-Xiang Liu

Specialty type: Oncology

Provenance and peer review: Invited article; Externally peer reviewed.

Peer-review model: Single blind

Peer-review report's classification Scientific Quality: Grade C Novelty: Grade A Creativity or Innovation: Grade C Scientific Significance: Grade C

P-Reviewer: Al-Bari MAA, Bangladesh

Received: March 6, 2024 Revised: May 3, 2024 Accepted: May 22, 2024 Published online: August 15, 2024 Processing time: 153 Days and 12.8 Hours



Jia-Mei Yu, Chong-Qi Sun, Xing-Yu Jiang, Si-Qi Ni, Ting-Yu Zhao, Ling-Xiang Liu, Department of Oncology, The First Affiliated Hospital of Nanjing Medical University, Nanjing 210029, Jiangsu Province, China

Huan-Huan Xu, Department of Hematology and Oncology, Department of Geriatric Lung Cancer Research Laboratory, Jiangsu Province Geriatric Hospital, Nanjing 210009, Jiangsu Province, China

Ya-Li Jiang, Central Laboratory, The Friendship Hospital of Ili Kazakh Autonomous Prefecture, Ili & Jiangsu Joint Institute of Health, Yining 835000, Xinjiang Uyghur Autonomous Region, China

Co-first authors: Jia-Mei Yu and Chong-Qi Sun.

Corresponding author: Ling-Xiang Liu, MD, PhD, Professor, Department of Oncology, The First Affiliated Hospital of Nanjing Medical University, No. 300 Guangzhou Road, Nanjing 210029, Jiangsu Province, China. llxlau@163.com

Abstract

Long non-coding RNAs (lncRNAs), with transcript lengths exceeding 200 nucleotides and little or no protein-coding capacity, have been found to impact colorectal cancer (CRC) through various biological processes. LncRNA expression can regulate autophagy, which plays dual roles in the initiation and progression of cancers, including CRC. Abnormal expression of lncRNAs is associated with the emergence of chemoresistance. Moreover, it has been confirmed that targeting autophagy through lncRNA regulation could be a viable approach for combating chemoresistance. Two recent studies titled "Human β-defensin-1 affects the mammalian target of rapamycin pathway and autophagy in colon cancer cells through long non-coding RNA TCONS_00014506" and "Upregulated lncRNA PRNT promotes progression and oxaliplatin resistance of colorectal cancer cells by regulating HIPK2 transcription" revealed novel insights into lncRNAs associated with autophagy and oxaliplatin resistance in CRC, respectively. In this editorial, we particularly focus on the regulatory role of lncRNAs in CRC-related autophagy and chemoresistance since the regulation of chemotherapeutic sensitivity by intervening with the lncRNAs involved in the autophagy process has become a promising new approach for cancer treatment.

Key Words: Long non-coding RNA; Autophagy; Chemoresistance; Oxaliplatin; Colorectal



WJGO https://www.wjgnet.com

cancer

©The Author(s) 2024. Published by Baishideng Publishing Group Inc. All rights reserved.

Core Tip: Long non-coding RNAs (lncRNAs) expression can regulate both autophagy and chemoresistance in colorectal cancer (CRC). Autophagy exerts dual effects on chemotherapy resistance through multiple mechanisms, including the regulation of autophagy-related lncRNAs. In this editorial, we focus on the role of lncRNAs in the regulation of autophagy and chemoresistance in CRC and explore the feasibility of modulating chemosensitivity by interfering with lncRNAs involved in the autophagic process.

Citation: Yu JM, Sun CQ, Xu HH, Jiang YL, Jiang XY, Ni SQ, Zhao TY, Liu LX. Navigating the labyrinth of long non-coding RNAs in colorectal cancer: From chemoresistance to autophagy. *World J Gastrointest Oncol* 2024; 16(8): 3376-3381 URL: https://www.wjgnet.com/1948-5204/full/v16/i8/3376.htm DOI: https://dx.doi.org/10.4251/wjgo.v16.i8.3376

INTRODUCTION

Colorectal cancer (CRC) is the third most common malignancy and the second leading cause of cancer-related death worldwide[1]. It is paramount to extensively and intensively investigate the pathogenesis of CRC to facilitate the development of effective therapeutic strategies. Two recent studies by Li *et al*[2] and Zhao *et al*[3] have provided fresh perspectives on the molecular intricacies of CRC and presented novel therapeutic targets. Li *et al*[2] focused on the long non-coding RNA (lncRNA) PRNT/ZNF184/HIPK2 axis and its role in oxaliplatin resistance, while Zhao *et al*[3] investigated the influence of human β -defensin-1 on autophagy through the lncRNA TCONS_00014506.

LncRNAs are implicated in the onset and progression of various human malignancies, including CRC[4]. These molecules can interact with RNA-binding proteins and act as competing endogenous RNAs (ceRNAs) for microRNAs (miRNAs), which are involved in epigenetic modification of DNA and RNA, thereby affecting the expression of relevant genes. These lncRNA-mediated changes can induce or inhibit autophagy in tumour cells and mediate drug resistance[4-6].

Autophagy is a cellular process in which components such as proteins and organelles are transported to lysosomes for degradation[7]. Previous studies have shown that autophagy plays dual roles in tumorigenesis[8]. On the one hand, the expression of lncRNAs has been shown to regulate autophagy in CRC, and on the other hand, lncRNAs and autophagy have cross-regulatory and dual effects on tumours: lncRNAs can increase or decrease autophagy, and changes in autophagy can further promote or inhibit tumour growth[6].

Chemotherapy is essential for patients with locally advanced or metastatic CRC[9]. Oxaliplatin-based chemotherapy has been used worldwide as a first-line treatment for CRC[10]. However, the prognosis of CRC patients is not as satisfactory as expected. Endogenous and acquired oxaliplatin resistance is now considered a major obstacle limiting treatment success[11]. Studies have shown that lncRNAs are key factors in oxaliplatin resistance, and their dysregulation induces the activation of several signalling pathways, which ultimately leads to chemoresistance[12].

Autophagy also plays dual roles in the development of chemotherapeutic resistance, either by promoting or inhibiting resistance through many complex mechanisms, including the regulation of autophagy-related lncRNAs (ARlncRNAs)[6] (Figure 1A). In this editorial, we focus on the role of lncRNAs in the regulation of autophagy and chemoresistance in CRC and explore the feasibility of modulating chemosensitivity by interfering with lncRNAs involved in the autophagic process.

LNCRNAS REGULATE AUTOPHAGY IN CRC

The effects of lncRNAs on autophagy and the influence of lncRNA-regulated autophagy on CRC pathogenesis are complicated[13]. Inhibition of autophagy by linc-POU3F3 in LOVO and SW480 CRC cells may enhance the malignant phenotype of CRC[14]. Similarly, the inhibition of LINC00858 induces colon cancer cell apoptosis, senescence, and autophagy. LINC00858 functions as a tumour-promoting lncRNA in colon cancer through the downregulation of WNK2 [15]. Moreover, the lncRNA CPS1-IT might suppress metastasis and EMT by inhibiting hypoxia-induced autophagy through the inactivation of HIF-1α in CRC[16]. In addition, the lncRNAs SLC04A1-AS1[17], UCA1[18], and MALAT1[19] promote autophagy through the miRNA-related axis, thus enhancing the proliferation of CRC cells. The dual regulatory role of ARlncRNAs, determined by the dual nature of autophagy, can serve as an effective therapeutic target for CRC[20].

Human β -defensin 1 (hBD-1) is a multifaceted antimicrobial peptide that acts as a tumour suppressor[21]. Zhao *et al*[3] verified that hBD-1 may induce autophagy in colon cancer SW620 cells by inhibiting the phosphorylation of mTOR through the lncRNA TCONS_00014506 at the cellular level. However, this study focused on a single cell line, and the impact of hBD-1 was not assessed; this is a limitation that could be addressed in future research. Moreover, an invest-

Yu JM et al. LncRNAs regulate autophagy and chemoresistance

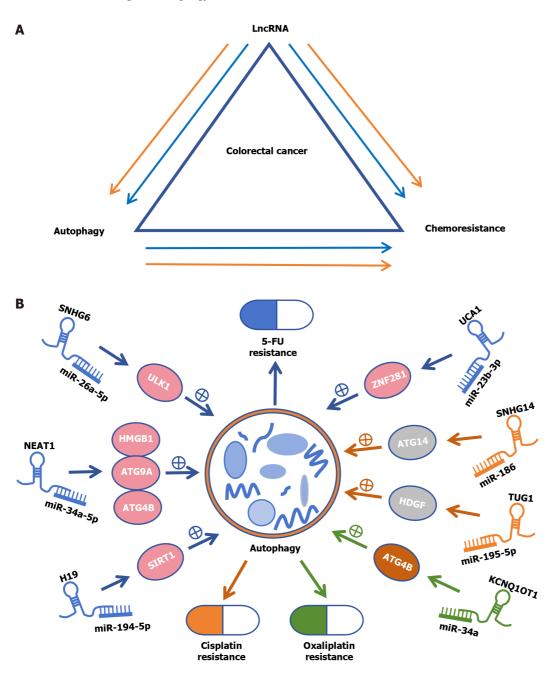


Figure 1 Mutual relationship between long non-coding RNAs, autophagy, and chemoresistance. A: Long non-coding RNAs (IncRNAs) can promote (blue line) or inhibit (orange line) autophagy and chemoresistance. Autophagy-related IncRNAs can positively or negatively influence drug resistance; B: LncRNAs function as competing endogenous RNAs by binding to specific microRNAs, leading to the activation of autophagy and ultimately enhancing resistance to 5-Fluorouracil, cisplatin, and oxaliplatin. IncRNA: Long non-coding RNAs; 5-FU: 5-Fluorouracil.

igation of the expression and function of TCONS_00014506 in patient-derived tumour samples could provide clinically relevant support for the in vitro findings. Bioinformatics analysis of autophagy-related differentially expressed lncRNAs was performed to offer novel insights on strategies that could complement existing treatments to potentially overcome resistance mechanisms and improve patient outcomes.

LNCRNAS REGULATE OXALIPLATIN RESISTANCE IN CRC

In recent years, emerging evidence has shown that lncRNAs play irreplaceable roles in drug resistance[4,6,22]. However, we have limited knowledge of the lncRNAs that are closely related to oxaliplatin resistance in CRC. A novel lncRNA, Linc00152 antagonizes oxaliplatin sensitivity by acting as a competing ceRNA to modulate the expression of miR-193a-3p and subsequently modulate the expression of erb-b2 receptor tyrosine kinase 4[23]. The lncRNAs CACS15[24], KCNQ1OT1[25], MEG3[26], CRNDE[27], LINC00525[28], and MALAT1[29,30] promote oxaliplatin resistance by sponging specific miRNAs. In addition, the lncRNA CCAL facilitates resistance to oxaliplatin in CRC cells by increasing the level of β -catenin expression[31]. The lncRNA LUCAT1 affects oxaliplatin sensitivity through the p53 signalling



Baishidena® WJGO | https://www.wjgnet.com

pathway. Knockdown of LUCAT1 renders CRC cells hypersensitive to oxaliplatin treatment[32].

A recent study by Li *et al*[2] revealed that the lncRNA PRNT is upregulated in oxaliplatin-resistant CRC cells and modulates the expression of HIPK2 by sponging ZNF184, marring bioinformatics analyses with robust *in vitro* and *in vivo* experiments. However, there is a pressing need to validate the clinical relevance of the PRNT/ZNF184/HIPK2 axis in a larger cohort of CRC patients. Considering the role of PRNT in chemoresistance, a systematic characterization of lncRNAs may redefine our approach to cancer treatment. Furthermore, examining the interplay between lncRNAs and other signalling pathways could uncover additional layers of regulation and points of intervention.

AUTOPHAGY-RELATED LNCRNAS REGULATE CHEMORESISTANCE IN CRC

ARIncRNAs can mediate both sides of autophagy and thus can positively or negatively affect drug resistance[20]. Autophagy-mediated drug resistance is a complex phenomenon involving multiple factors, including the recirculation of cytoplasmic components, gene repair mechanisms, alterations in drug concentration and metabolism, changes in the expression or activity of key proteins, and modifications in apoptotic and survival signalling pathways[6].

LncRNA H19 promotes SIRT1-dependent autophagy *via* miR-194-5p, thereby inducing 5-Fluorouracil (5-FU) resistance in CRC[33]. The knockdown of NEAT1 attenuates autophagy by targeting miR-34a to increase 5-FU sensitivity[34]. SNHG6 may promote chemoresistance through ULK1-induced autophagy by sponging miR-26a-5p in CRC cells[35]. *In vivo* and *in vitro*, the lncRNA UCA1 promotes autophagy through the miR-23b-3p/ZNF281 axis, which mediates resistance to 5-FU in CRC cells[36]. Similarly, the lncRNA SNHG14 stimulates cellular autophagy through interaction with the miR-186/ATG14 axis to promote cisplatin resistance in CRC[37]. The lncRNA TUG1 targets miR-195-5p and blocks its expression. MiR-195-5p promotes the HDGF/DDX/β-catenin axis, thereby triggering autophagy, which promotes resistance to cisplatin[38] (Figure 1B).

Both recent studies are noteworthy, as they revealed the roles of lncRNAs in CRC progression and treatment resistance. A more comprehensive approach is necessary to elucidate the network of lncRNA interactions in CRC since they focused on individual lncRNA. ARIncRNAs act by regulating specific downstream miRNAs[20]. However, individual lncRNA can regulate more than one miRNA, so broader exploration of the numerous targets or signalling pathways downstream of ARIncRNAs is essential. Furthermore, the interaction between autophagy and chemoresistance remains an underexplored topic, and studies in this area may reveal innovative CRC therapies.

CONCLUSION

Although modulating chemosensitivity by interfering with lncRNAs involved in the autophagy process is a promising new approach for cancer treatment, multicentre validations based on sufficient samples are still necessary. With our increasing knowledge of lncRNAs in CRC, there is promise that some lncRNAs might be applied in biomarker-directed precision medicine approaches to improve survival outcomes in CRC patients.

FOOTNOTES

Author contributions: Yu JM, Sun CQ, and Liu LX contributed to this paper; Yu JM, Sun CQ, Xu HH, Jiang YL, and Liu LX designed the overall concept and outline of the manuscript; Yu JM, Sun CQ, Jiang XY, Ni SQ, Zhao TY, and Liu LX contributed to the discussion and design of the manuscript; Yu JM and Sun CQ contributed to the writing, and editing the manuscript, illustrations, and review of literature; and all authors read and approved the final manuscript.

Supported by the National Natural Science Foundation of China, No. 81472782; National Clinical Key Specialty Department (Oncology) of China, No. YWC-ZKJS-2023-01; and Research Fund of Yili Institute of Clinical Medicine, No. yl2021ms02.

Conflict-of-interest statement: The authors declare no conflicts of interest.

Open-Access: This article is an open-access article that was selected by an in-house editor and fully peer-reviewed by external reviewers. It is distributed in accordance with the Creative Commons Attribution NonCommercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: https://creativecommons.org/Licenses/by-nc/4.0/

Country of origin: China

ORCID number: Ling-Xiang Liu 0000-0001-8689-1788.

S-Editor: Chen YL L-Editor: A P-Editor: Zhao S

REFERENCES

- 1 Siegel RL, Miller KD, Wagle NS, Jemal A. Cancer statistics, 2023. CA Cancer J Clin 2023; 73: 17-48 [PMID: 36633525 DOI: 10.3322/caac.21763
- 2 Li SN, Yang S, Wang HQ, Hui TL, Cheng M, Zhang X, Li BK, Wang GY. Upregulated lncRNA PRNT promotes progression and oxaliplatin resistance of colorectal cancer cells by regulating HIPK2 transcription. World J Gastrointest Oncol 2024; 16: 1564-1577 [PMID: 38660648 DOI: 10.4251/wjgo.v16.i4.1564]
- Zhao YX, Cui Y, Li XH, Yang WH, An SX, Cui JX, Zhang MY, Lu JK, Zhang X, Wang XM, Bao LL, Zhao PW. Human β-defensin-1 affects 3 the mammalian target of rapamycin pathway and autophagy in colon cancer cells through long non-coding RNA TCONS_00014506. World J Gastrointest Oncol 2024; 16: 1465-1478 [PMID: 38660658 DOI: 10.4251/wjgo.v16.i4.1465]
- Bhan A, Soleimani M, Mandal SS. Long Noncoding RNA and Cancer: A New Paradigm. Cancer Res 2017; 77: 3965-3981 [PMID: 28701486 4 DOI: 10.1158/0008-5472.CAN-16-2634]
- 5 Chan JJ, Tay Y. Noncoding RNA:RNA Regulatory Networks in Cancer. Int J Mol Sci 2018; 19 [PMID: 29702599 DOI: 10.3390/iims19051310]
- 6 Chang H, Zou Z. Targeting autophagy to overcome drug resistance: further developments. J Hematol Oncol 2020; 13: 159 [PMID: 33239065 DOI: 10.1186/s13045-020-01000-2]
- 7 Li X, He S, Ma B. Autophagy and autophagy-related proteins in cancer. Mol Cancer 2020; 19: 12 [PMID: 31969156 DOI: 10.1186/s12943-020-1138-4]
- Kondo Y, Kanzawa T, Sawaya R, Kondo S. The role of autophagy in cancer development and response to therapy. Nat Rev Cancer 2005; 5: 8 726-734 [PMID: 16148885 DOI: 10.1038/nrc1692]
- Biller LH, Schrag D. Diagnosis and Treatment of Metastatic Colorectal Cancer: A Review. JAMA 2021; 325: 669-685 [PMID: 33591350 DOI: 9 10.1001/jama.2021.0106]
- Yang AD, Fan F, Camp ER, van Buren G, Liu W, Somcio R, Gray MJ, Cheng H, Hoff PM, Ellis LM. Chronic oxaliplatin resistance induces 10 epithelial-to-mesenchymal transition in colorectal cancer cell lines. Clin Cancer Res 2006; 12: 4147-4153 [PMID: 16857785 DOI: 10.1158/1078-0432.CCR-06-0038
- Huang H, Zhu L, Reid BR, Drobny GP, Hopkins PB. Solution structure of a cisplatin-induced DNA interstrand cross-link. Science 1995; 270: 11 1842-1845 [PMID: 8525382 DOI: 10.1126/science.270.5243.1842]
- Qi FF, Yang Y, Zhang H, Chen H. Long non-coding RNAs: Key regulators in oxaliplatin resistance of colorectal cancer. Biomed 12 Pharmacother 2020; 128: 110329 [PMID: 32502843 DOI: 10.1016/j.biopha.2020.110329]
- Cheng L, Han T, Zhang Z, Yi P, Zhang C, Zhang S, Peng W. Identification and Validation of Six Autophagy-related Long Non-coding RNAs 13 as Prognostic Signature in Colorectal Cancer. Int J Med Sci 2021; 18: 88-98 [PMID: 33390777 DOI: 10.7150/ijms.49449]
- 14 Shan TD, Xu JH, Yu T, Li JY, Zhao LN, Ouyang H, Luo S, Lu XJ, Huang CZ, Lan QS, Zhong W, Chen QK. Knockdown of linc-POU3F3 suppresses the proliferation, apoptosis, and migration resistance of colorectal cancer. Oncotarget 2016; 7: 961-975 [PMID: 26510906 DOI: 10.18632/oncotarget.5830]
- Wu J, Meng X, Gao R, Jia Y, Chai J, Zhou Y, Wang J, Xue X, Dang T. Long non-coding RNA LINC00858 inhibits colon cancer cell 15 apoptosis, autophagy, and senescence by activating WNK2 promoter methylation. Exp Cell Res 2020; 396: 112214 [PMID: 32768499 DOI: 10.1016/j.yexcr.2020.112214]
- Zhang W, Yuan W, Song J, Wang S, Gu X. LncRNA CPS1-IT1 suppresses EMT and metastasis of colorectal cancer by inhibiting hypoxia-16 induced autophagy through inactivation of HIF-1a. Biochimie 2018; 144: 21-27 [PMID: 29017924 DOI: 10.1016/j.biochi.2017.10.002]
- Wang Z, Jin J. LncRNA SLCO4A1-AS1 promotes colorectal cancer cell proliferation by enhancing autophagy via miR-508-3p/PARD3 axis. 17 Aging (Albany NY) 2019; 11: 4876-4889 [PMID: 31308265 DOI: 10.18632/aging.102081]
- Song F, Li L, Liang D, Zhuo Y, Wang X, Dai H. Knockdown of long noncoding RNA urothelial carcinoma associated 1 inhibits colorectal 18 cancer cell proliferation and promotes apoptosis via modulating autophagy. J Cell Physiol 2019; 234: 7420-7434 [PMID: 30362538 DOI: 10.1002/jcp.27500]
- Si Y, Yang Z, Ge Q, Yu L, Yao M, Sun X, Ren Z, Ding C. Long non-coding RNA Malat1 activated autophagy, hence promoting cell 19 proliferation and inhibiting apoptosis by sponging miR-101 in colorectal cancer. Cell Mol Biol Lett 2019; 24: 50 [PMID: 31372165 DOI: 10.1186/s11658-019-0175-8]
- 20 Zhang Y, Tang J, Wang C, Zhang Q, Zeng A, Song L. Autophagy-related lncRNAs in tumor progression and drug resistance: A double-edged sword. Genes Dis 2024; 11: 367-381 [PMID: 37588204 DOI: 10.1016/j.gendis.2023.04.015]
- Álvarez ÁH, Martínez Velázquez M, Prado Montes de Oca E. Human β-defensin 1 update: Potential clinical applications of the restless 21 warrior. Int J Biochem Cell Biol 2018; 104: 133-137 [PMID: 30236992 DOI: 10.1016/j.biocel.2018.09.007]
- 22 Chen B, Dragomir MP, Yang C, Li Q, Horst D, Calin GA. Targeting non-coding RNAs to overcome cancer therapy resistance. Signal Transduct Target Ther 2022; 7: 121 [PMID: 35418578 DOI: 10.1038/s41392-022-00975-3]
- Yue B, Cai D, Liu C, Fang C, Yan D. Linc00152 Functions as a Competing Endogenous RNA to Confer Oxaliplatin Resistance and Holds 23 Prognostic Values in Colon Cancer. Mol Ther 2016; 24: 2064-2077 [PMID: 27633443 DOI: 10.1038/mt.2016.180]
- Gao R, Fang C, Xu J, Tan H, Li P, Ma L. LncRNA CACS15 contributes to oxaliplatin resistance in colorectal cancer by positively regulating 24 ABCC1 through sponging miR-145. Arch Biochem Biophys 2019; 663: 183-191 [PMID: 30639170 DOI: 10.1016/j.abb.2019.01.005]
- 25 Li Y, Li C, Li D, Yang L, Jin J, Zhang B. IncRNA KCNQ10T1 enhances the chemoresistance of oxaliplatin in colon cancer by targeting the miR-34a/ATG4B pathway. Onco Targets Ther 2019; 12: 2649-2660 [PMID: 31040703 DOI: 10.2147/OTT.S188054]
- 26 Wang H, Li H, Zhang L, Yang D. Overexpression of MEG3 sensitizes colorectal cancer cells to oxaliplatin through regulation of miR-141/ PDCD4 axis. Biomed Pharmacother 2018; 106: 1607-1615 [PMID: 30119236 DOI: 10.1016/j.biopha.2018.07.131]
- Gao H, Song X, Kang T, Yan B, Feng L, Gao L, Ai L, Liu X, Yu J, Li H. Long noncoding RNA CRNDE functions as a competing endogenous 27 RNA to promote metastasis and oxaliplatin resistance by sponging miR-136 in colorectal cancer. Onco Targets Ther 2017; 10: 205-216 [PMID: 28115855 DOI: 10.2147/OTT.S116178]
- Wang S, Li J, Yang X. Long Non-Coding RNA LINC00525 Promotes the Stemness and Chemoresistance of Colorectal Cancer by Targeting 28 miR-507/ELK3 Axis. Int J Stem Cells 2019; 12: 347-359 [PMID: 31242722 DOI: 10.15283/ijsc19041]
- 29 Li P, Zhang X, Wang H, Wang L, Liu T, Du L, Yang Y, Wang C. MALAT1 Is Associated with Poor Response to Oxaliplatin-Based Chemotherapy in Colorectal Cancer Patients and Promotes Chemoresistance through EZH2. Mol Cancer Ther 2017; 16: 739-751 [PMID: 28069878 DOI: 10.1158/1535-7163.MCT-16-0591]



- Xie JJ, Li WH, Li X, Ye W, Shao CF. LncRNA MALAT1 promotes colorectal cancer development by sponging miR-363-3p to regulate EZH2 30 expression. J Biol Regul Homeost Agents 2019; 33: 331-343 [PMID: 30972996]
- 31 Deng X, Ruan H, Zhang X, Xu X, Zhu Y, Peng H, Kong F, Guan M. Long noncoding RNA CCAL transferred from fibroblasts by exosomes promotes chemoresistance of colorectal cancer cells. Int J Cancer 2020; 146: 1700-1716 [PMID: 31381140 DOI: 10.1002/ijc.32608]
- Zhou Q, Hou Z, Zuo S, Zhou X, Feng Y, Sun Y, Yuan X. LUCAT1 promotes colorectal cancer tumorigenesis by targeting the ribosomal 32 protein L40-MDM2-p53 pathway through binding with UBA52. Cancer Sci 2019; 110: 1194-1207 [PMID: 30690837 DOI: 10.1111/cas.13951]
- Wang M, Han D, Yuan Z, Hu H, Zhao Z, Yang R, Jin Y, Zou C, Chen Y, Wang G, Gao X, Wang X. Long non-coding RNA H19 confers 5-Fu 33 resistance in colorectal cancer by promoting SIRT1-mediated autophagy. Cell Death Dis 2018; 9: 1149 [PMID: 30451820 DOI: 10.1038/s41419-018-1187-4]
- Liu F, Ai FY, Zhang DC, Tian L, Yang ZY, Liu SJ. LncRNA NEAT1 knockdown attenuates autophagy to elevate 5-FU sensitivity in 34 colorectal cancer via targeting miR-34a. Cancer Med 2020; 9: 1079-1091 [PMID: 31802650 DOI: 10.1002/cam4.2746]
- Wang X, Lan Z, He J, Lai Q, Yao X, Li Q, Liu Y, Lai H, Gu C, Yan Q, Fang Y, Zhang Y, Li A, Liu S. LncRNA SNHG6 promotes 35 chemoresistance through ULK1-induced autophagy by sponging miR-26a-5p in colorectal cancer cells. Cancer Cell Int 2019; 19: 234 [PMID: 31516391 DOI: 10.1186/s12935-019-0951-6]
- Xian Z, Hu B, Wang T, Zeng J, Cai J, Zou Q, Zhu P. IncRNA UCA1 Contributes to 5-Fluorouracil Resistance of Colorectal Cancer Cells 36 Through miR-23b-3p/ZNF281 Axis. Onco Targets Ther 2020; 13: 7571-7583 [PMID: 32801774 DOI: 10.2147/OTT.S258727]
- Han Y, Zhou S, Wang X, Mao E, Huang L. SNHG14 stimulates cell autophagy to facilitate cisplatin resistance of colorectal cancer by 37 regulating miR-186/ATG14 axis. Biomed Pharmacother 2020; 121: 109580 [PMID: 31704614 DOI: 10.1016/j.biopha.2019.109580]
- Xia C, Li Q, Cheng X, Wu T, Gao P, Gu Y. Insulin-like growth factor 2 mRNA-binding protein 2-stabilized long non-coding RNA Taurine up-38 regulated gene 1 (TUG1) promotes cisplatin-resistance of colorectal cancer via modulating autophagy. Bioengineered 2022; 13: 2450-2469 [PMID: 35014946 DOI: 10.1080/21655979.2021.2012918]





Published by Baishideng Publishing Group Inc 7041 Koll Center Parkway, Suite 160, Pleasanton, CA 94566, USA Telephone: +1-925-3991568 E-mail: office@baishideng.com Help Desk: https://www.f6publishing.com/helpdesk https://www.wjgnet.com

