

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Biological Chemistry*

**Manuscript NO:** 81730

**Title:** Molecular genetics of early-onset colorectal cancer

**Provenance and peer review:** Invited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 05395205

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Doctor, Postdoc

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** United States

**Manuscript submission date:** 2022-11-21

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-11-21 15:32

**Reviewer performed review:** 2022-11-22 15:05

**Review time:** 23 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input checked="" type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input checked="" type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [ ] Yes [Y] No

## SPECIFIC COMMENTS TO AUTHORS

In this review, the authors summarized current literature regarding early-onset colorectal cancer, focusing on sporadic molecular alterations in tumors and their clinical implications. Some concerns are listed as below: In Figure 1 different mutations in the pathogenesis of colorectal cancer subtypes are not clear. Which specific colorectal cancer subtypes (the authors used cancer for 3 times in the figure)? Some mutations may also be noted in other cancers. In Figure 2, DNA mutations seem not consistent with protein changes. The authors mentioned decreased or increased in the table. It is not clear for readers if alterations at the DNA, RNA, and protein levels are different between early and late-onset colorectal cancer. In the section of EOCRC Proteomics, please mention which specific population and the sample size. The authors just mentioned that Holowatyj et al. found no differences in the plasma proteome of younger-onset compared with older-onset CRC using an antibody microarray platform to detect 206 proteins. However, other details are lacking. The biggest issue is that the review is simply a repetition of the literature with no attempt to synthesize or critically discuss the results presented. This is the key to a good review article. However, the article reads like a bunch of abstracts from different studies in paragraph form.

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**Reviewer's code:** 05907966

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** United States

**Manuscript submission date:** 2022-11-21

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**Reviewer accepted review:** 2022-11-22 05:38

**Reviewer performed review:** 2022-12-04 17:35

**Review time:** 12 Days and 11 Hours

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [ ] Yes [Y] No

#### **SPECIFIC COMMENTS TO AUTHORS**

This review focuses on EOCRC. The main aspects of EOCRC have been discussed in this review. Therefore, this is an instructive review. Minor problems: (1) Post-transcriptional mechanism such as alternative polyadenylation and RNA modification should be discussed, due to their importance in carcinogenesis. (2) In the section of EOCRC proteomics, post-translational modification should be discussed. (3) The established biomarker and therapy for EOCRC should be discussed in depth, especially their limitations or shortcomings.