Reviewer's report

Title: Induction of G1 and G2/M cell cycle arrests by the dietary compound 3,3'-diindolylmethane in HT-29 human colon cancer cells

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Reviewer: Farrukh Afaq

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In this study, the authors examined the effect of 3,3’-diindolylmethane (DIM) on cell cycle progression in HT-29 cells. This study is an extension of the previous work in which the authors have shown that DIM inhibited the growth of colon cells. Here, the authors further suggest that treatment of cells with DIM resulted in a dose-dependent reduction in DNA synthesis. Furthermore, the percentage of cells in G1 and G2/M phases were significantly increased after DIM treatment and this was accompanied by reduced expression cyclins and cdk4 an increased expression of p21 and p27. This is an interesting study and the experiments appear to be well-planned and conducted. There are some concerns which are listed below:

The authors should also provide dose-dependent data to further prove that DIM treatment resulted in G1 and G2/M phase arrest.

The authors should also examine the effect of DIM on normal cells?

Since the expression of p21 is tightly regulated by p53, the authors are encouraged to examine the status of p53 after DIM treatment.

What was the effect of DIM on p16 expression?

Some of the sentences in the manuscript are difficult to understand and need rephrasing.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

'I declare that I have no competing interests'