Reviewer's report

Title: Upregulation of heme oxygenase-1 in colorectal cancer patients with increased circulation carbon monoxide levels, potentially affects chemotherapeutic sensitivity

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Reviewer: Tomohiro Sawa

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This study provided evidence suggesting that upregulation of heme oxygenase-1 (HO-1) in colon cancer tissues of human patients. The authors demonstrated that upregulation of HO-1 was well correlated to plasma carbon monoxide levels as indicated by carboxyhemoglobin concentrations. Functional impacts of HO-1 induction in tumor biology was determined by using colon cancer cells in vitro, and the authors suggested that increased HO-1 levels may implicate in acquisition of chemotherapy resistance. The data presented are interesting, and the experiments were well performed. Only point that should be revised is that control experiments with ZnPP treatment in cell culture experiments. The authors examined the effects of ZnPP on drug resistance for cancer cell lines (Fig. 6). Does ZnPP treatment alone at this concentration (0.5 microM) affect cell viability? This notion should be included in the manuscript.

Level of interest: An article of importance in its field

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.