

Review Form 3

Journal Name:	Asian Journal of Biotechnology and Bioresource Technology
Manuscript Number:	Ms_AJB2T_126742
Title of the Manuscript:	Inhibition of Escherichia coli cell-free β -galactosidase activity by binary mixtures of water-miscible solvents
Type of the Article	Original Research Article

Review Form 3

PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>It is good to conduct an experiment on the effectiveness of water-soluble solvents and compare the results with their concentrations and permeability An important study, especially in increasing bacterial resistance to antibiotics The possibility of alternatives that may be effective in inhibition The study is of great importance in determining the activity of the enzyme β-Galactosidase and interference in its work, especially since it is present in many organisms. In addition, the activity and synthesis of beta-galactosidase were used as microbial responses in evaluating chemical toxicity in this research, which is considered a new study in this aspect. The use of several concentrations of solvents to estimate the permeability of microbial cells, which are subsequently washed before testing the activity of beta-galactosidase in permeable cells gives us an idea of the type of solvent and its toxicity, effect, activity and effect on permeability, which gives a greater idea of the entry of materials and the permeability of cell membranes</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The title of the article suitable</p>	
<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>It is possible to use more concentrations to clarify the effectiveness and response to the individual solvent and mixtures and to make a comparison between the individual solvent and the mixtures, and at what concentration was the better response in terms of inhibition and permeability.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The subsections and structure of the manuscript appropriate</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>The manuscript is considered scientifically correct and sound, has good content, and contains important results and studies with the trends of scientific development in the study of membrane permeability, the effect of solutes, the transfer of materials across membranes, their toxic effects, and their interference in enzyme activity and response to the solvent.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =</p>	<p>Hamed, A. A., Khedr, M., & Abdelraof, M. (2020). Activation of LacZ gene in Escherichia coli DH5α via α-complementation mechanism for β-galactosidase production and its biochemical characterizations. <i>Journal of Genetic Engineering and Biotechnology</i>, 18(1), 80.</p> <p>Li, Q., Hu, W., Liu, W. X., Zhao, L. Y., Huang, D., Liu, X. D., ... & Wu, W. K. K. (2021). <i>Streptococcus thermophilus</i> inhibits colorectal tumorigenesis through secreting β-galactosidase. <i>Gastroenterology</i>, 160(4), 1179-1193.</p> <p>Ma, E., An, Y., Zhang, G., Zhao, M., Iqbal, M. W., Zayed, H. M., & Qi, X. (2023). Enhancing the antibacterial activity of <i>Lactobacillus reuteri</i> against <i>Escherichia coli</i> by random mutagenesis and delineating its mechanism. <i>Food Bioscience</i>, 51, 102209.</p> <p>Buarque, F. S., Gautério, G. V., Coelho, M. A. Z., Lemes, A. C., & Ribeiro, B. D. (2022). Aqueous two-phase systems based on ionic liquids and deep eutectic solvents as a tool for the recovery of non-protein bioactive compounds—a review. <i>Processes</i>, 11(1), 31.</p>	

Review Form 3

Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The English language and quality of the article suitable for scholarly communications	
Optional/General comments	The topic is good, but it needs to add new sources, clarify the goal more, and write the most important points that increase the quality of the research, while reading the notes to make it ideal.	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

Name:	Anmar Kamil Alalwani
Department, University & Country	University of Anbar, Iraq