

Review Form 3

Journal Name:	Journal of Advances in Biology & Biotechnology
Manuscript Number:	Ms_JABB_129031
Title of the Manuscript:	Pharmacokinetics of enrofloxacin in Rohu (<i>Labeo rohita</i>): A comparison of bath, intramuscular, and oral administration
Type of the Article	Original Research Article

PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	This manuscript is of significant importance to the scientific community as it provides a comprehensive analysis of the pharmacokinetics of enrofloxacin in the tilapia (<i>Labeo rohita</i>), an important aquaculture species. By comparing bath, intramuscular and oral administration methods, it provides critical insights into optimising drug delivery for effective disease management in aquaculture. These findings have the potential to improve therapeutic outcomes, minimise drug residues in the aquatic environment and support sustainable aquaculture practices. In addition, this study contributes to a broader understanding of antimicrobial pharmacokinetics in fish, which will assist in the development of guidelines for the responsible use of antibiotics in aquaculture systems.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title "Pharmacokinetics of enrofloxacin in Rohu (<i>Labeo rohita</i>): A comparison of bath, intramuscular, and oral administration" is clear and informative and accurately reflects the focus of the study. It effectively communicates the key issue (pharmacokinetics of enrofloxacin), the species studied (Rohu) and the comparison of routes of administration, making it suitable for a scientific audience.	

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<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>The executive summary is generally comprehensive and covers the key elements of the study, including objectives, methods, results and conclusions. The abstract provides accurate details of pharmacokinetic parameters (e.g. Cmax, Tmax, AUC, elimination half-life and Vd/F) for all three routes of administration. It provides a practical conclusion regarding the effective dosage and plasma concentration for the treatment of fish pathogenic strains. However, there are opportunities to improve its clarity and impact by restructuring certain parts and filling in gaps. Here are my suggestions:</p> <p>1) Briefly mention why enrofloxacin pharmacokinetics in rohu is relevant to aquaculture. For example, highlight the need for optimised antibiotic administration in fish health management. Example: "Understanding the pharmacokinetics of enrofloxacin in <i>Labeo rohita</i> is critical for developing effective treatment strategies in aquaculture".</p> <p>2) Include the significance of the observed differences in pharmacokinetics between routes of administration. This will help the reader to understand the practical implications of the results. Example: "Intramuscular administration provided the highest plasma concentrations and the longest elimination half-life, suggesting its suitability for sustained treatment efficacy".</p> <p>3) The last sentence could be more concise and directly link the results to their practical application. Revised: "Our results suggest that enrofloxacin administered intramuscularly (10 mg/kg), orally (10 mg/kg), or by bath immersion (5 mg/L for 5 h) achieves sufficient plasma concentrations to treat pathogens with MIC \leq 0.3 μg/ml."</p> <p>4) Although the detailed pharmacokinetic parameters are informative, they can make the abstract dense. Summarising some values may improve readability. Example: Instead of listing all Cmax and Tmax values separately, summarise them in a single statement: "Cmax and Tmax varied depending on the route of administration, with intramuscular administration resulting in the highest plasma concentration and the longest absorption time".</p>	
<p>Is the manuscript scientifically correct? Please write here.</p>	<p>The manuscript provides a clear experimental design with different routes of administration (intramuscular, oral and bath exposure), allowing a comprehensive comparison of pharmacokinetic parameters. The use of high performance liquid chromatography (HPLC) to determine plasma concentrations is appropriate and widely accepted for this type of study.</p> <p>The use of non-compartmental pharmacokinetic analysis is scientifically appropriate for the calculation of key parameters such as Cmax, Tmax, AUC and elimination half-life. This method is commonly used when studying the absorption, distribution, metabolism and excretion (ADME) of drugs.</p> <p>The manuscript provides detailed values for pharmacokinetic parameters such as Cmax, Tmax, AUC, elimination half-life (t1/2), and volume of distribution (Vd/F) for each route of administration, which allows readers to accurately assess the pharmacokinetics of enrofloxacin in ROHU.</p> <p>The conclusions drawn are consistent with the results, indicating that enrofloxacin is well absorbed and widely distributed in Rohu, with different pharmacokinetic profiles for each route of administration. The proposed dosage recommendations (10 mg/kg for intramuscular and oral routes and 5 mg/L for bath immersion) supported by the observed plasma concentrations.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>The references provided in the manuscript appear to be relevant and cover a wide range of related research on the pharmacokinetics of enrofloxacin in different fish species, including studies on the pharmacokinetics of enrofloxacin in different aquatic organisms and comparison of different routes of administration. However, some of the references are somewhat dated, with the most recent references from 2022 and fewer references from 2023 or 2024.</p>	

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language and English quality of the article is generally clear and suitable for scientific communication. However, there are a few areas where the writing could be improved in terms of clarity, flow and precision. Here are a few specific suggestions:</p> <ol style="list-style-type: none"> 1) The sentence "Blood samples were collected at predetermined time intervals" could be more precise by specifying how many time points or which time intervals were used. 2) In the phrase "the plasma concentrations of enrofloxacin were determined by high performance liquid chromatography," consider replacing "were determined" with "were analyzed" for a slightly more formal tone. 3) "Volume of distribution (Vd/F)" could be clarified with a brief explanation of the acronym when first introduced for readers who may not be familiar with it. 4) Consider breaking longer sentences into smaller ones to improve readability. For example, "The results of our study indicate that enrofloxacin was well absorbed, widely distributed, and slowly eliminated in rohu following all three routes of administration and a dosage of 10 mg/kg for intramuscular or oral route and 5 mg/L for 5 h for bath immersion..." could be rewritten as two sentences for clarity: "The results of our study indicate that enrofloxacin was well absorbed, widely distributed, and slowly eliminated in rohu. A dosage of 10 mg/kg for intramuscular or oral administration, and 5 mg/L for 5 hours for bath immersion, was sufficient to produce plasma concentrations for effective treatment." 	
<p><u>Optional/General</u> comments</p>	<p>Overall, the manuscript appears to be scientifically sound, with a robust experimental design and accurate reporting of pharmacokinetic parameters. The inclusion of more details on statistical comparisons and mechanisms of action, as well as a brief discussion of safety considerations, could improve the overall scientific rigour and completeness of the study.</p> <p>I have made some comments about things I think you could do to improve your work. This does not mean that you have to agree or rewrite in the same way. It is just a suggestion and a different view with the aim of contributing.</p> <ol style="list-style-type: none"> 1) The manuscript would benefit from more information on the statistical methods used to compare the pharmacokinetic parameters of the different routes of administration. For example, were significant differences between routes statistically tested? In the absence of this information, it is difficult to assess whether the observed differences are meaningful or just due to random variation. 2) Although the study provides valuable pharmacokinetic data, the manuscript could benefit from a discussion of the potential mechanisms behind the different rates of absorption and volume of distribution for the different routes of administration. For example, the oral route, which showed the highest volume of distribution, may warrant investigation of the effects of intestinal absorption and first-pass metabolism in Rohu. 3) Although the study focuses on pharmacokinetics, it would be useful to briefly mention any potential toxicity or safety concerns related to the recommended doses. Are the observed plasma concentrations safe for the fish and are they consistent with therapeutic ranges for the target pathogens? 	

PART 2:

	<p>Reviewer's comment</p>	<p>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)</p>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

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