



SDI Review Form 1.6

Journal Name:	<u>Journal of Advances in Medical and Pharmaceutical Sciences</u>
Manuscript Number:	Ms_JAMPS_29006
Title of the Manuscript:	In Vitro analysis of the interaction between ketorolac tromethamine and bovine serum albumin using fluorescence spectroscopy
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	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)
Compulsory REVISION comments		
Minor REVISION comments	Needs more explanation on how both tryptophan and tyrosine residues participate in the interactions between ketorolac and BSA at 280 nm excitation wavelength.	There are three amino acids with intrinsic fluorescence properties, phenylalanine, tyrosine and tryptophan but only tyrosine and tryptophan are used experimentally because their quantum yields is high enough to give a good fluorescence signal. For an excitation wavelength of 280 nm, both tryptophan and tyrosine will be excited. To selectively excite tryptophan only, 295 nm wavelength must be used. Most of the fluorescence emission spectra in the range of 320- 460 nm were recorded at excitation wavelength of 280 nm and 293 nm, respectively, in the same experimental conditions. Ketorolac has no fluorescence in the range of 320- 460 nm. In order to determine whether both tryptophan and tyrosine residues are involved in the interaction with ketorolac, the fluorescence of BSA excited at 280 nm and 293 nm in the presence of ketorolac is compared. In our experimental work, the plots F/F ₀ against [Ketorolac]/[BSA] at 280 nm obviously differs from that excited at 293 nm in the presence of ketorolac. This significant difference between quenching of serum albumin fluorescence indicated that both tyrosine and tryptophan residues participated in the molecular interactions between BSA and ketorolac at excited state.



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	There should be comments about how important is the “in vitro analysis of the interaction between ketorolac tromethamine and BSA” and what is the potential useful application or clinical application in vivo.	Whether Ketorolac interact with the plasma protein or not, an <i>in vitro</i> fluorescence spectroscopic method was developed to analyze. Serum albumin being the major transporters binding protein for the drugs and other physiological substances, it is considered as a <i>in vitro</i> model for studying drug–protein interaction .From a biopharmaceutical point of view, one of the most important biological functions of albumins is their ability to carry drugs, endogenous and exogenous substances. Numerous experiments with the aim of characterizing the binding capacity and binding sites of albumins have been carried out. The spectral changes observed on the binding of fluorophores with proteins are important tools for the investigations of the topology of the binding sites, of the conformational changes and for the characterization of substrate to ligand binding.
<u>Optional/General</u> comments		