Reviewer’s report

Title: Determination of Parecoxib and Valdecoxib in Rat Plasma by UPLC-MS/MS and its Application to Pharmacokinetics Studies

Version: 1 Date: 07 Oct 2019

Reviewer: Marcia Ratner

Reviewer's report:

Due to growing use of parecoxib (PCX) alone and in combination with other drugs, the present study aimed to develop and validate a sample and convenient UPLC-MS/MS method to simultaneously quantify PCX and valdecoxib (VCX) in plasma samples. The authors argue that conventional high-performance liquid chromatographic methods used for the determination of PCX and VCX were have lower sensitivity and that there is a need for a more sensitive, specific, and straightforward UPLC-MS/MS method to determine PCX and VCX concentrations in plasma samples. These authors also argue that current methods of sample preparation aimed at detecting PCX and its metabolite VCX in samples have disadvantages which render these methods both complex and time-consuming. These authors aim to improve the sample preparation process and sensitivity by combining by UPLC-MS/MS with one-step protein precipitation with acetonitrile. This effectiveness method was evaluated by analyzing rat plasma samples collected after the sublingual vein administration of 5 mg/kg PCX in rats. The authors conclude that their one step method improves upon the method of Jin et al. who used methanol to precipitate plasma protein with two-step centrifugations.

Unfortunately this reviewer does not view this technical methods paper as adding sufficiently to the basic pharmacology and toxicology literature to warrant publication in BMC PT. Recommend transfer to BMC research notes.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes
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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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