

# CAN SOLUBILIZING EXCIPIENTS BE USED WITH THE RAT BATA MODEL TO ASSESS THE TASTE OF POORLY WATER-SOLUBLE DRUGS?

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## Introduction

Taste assessment is an important element of pharmaceutical drug development, especially for the paediatric population. The rat brief-access taste aversion (BATA) model has shown great promises in assessing the taste of aversive APIs (Rudnitskaya et al. 2013; Soto et al. 2015). However, numerous APIs are poorly soluble yet elicit an aversive taste such as hydrocortisone. Thus, there is a need to find out inherent taste characteristics of solubilizing excipients in order to solubilise poorly water-soluble APIs for taste assessment with the BATA model.

## Purpose

This pilot study aims at assessing the palatability of Dimethyl sulfoxide (DMSO), a well established co-solvent not necessarily used in paediatric formulations but used at early development and screening stages.

## Materials and Methods

The BATA model used ten mildly water-deprived male Sprague-Dawley rats with the lickometer “Davis Rig MS-160” which electronically records the number of licks that rats do to different DMSO concentrations (0.25-5% v/v in water) randomly presented.

## Results

The data showed that DMSO could be used undetected up to 1% (49 average licks, not significantly different from water 50 licks), however even at the highest concentrations the % of lick inhibition (even if significant) was only of around 20%. No variability was observed between the two testing sessions, which confirmed the robustness of the model.

## Conclusions

It was feasible to select the maximum tasteless concentration of DMSO with the rat BATA model. Further studies are planned to screen more solubilizing excipients used in Oral Formulations.

## References

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