

## Ostro Sample Preparation Products: Recovery

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Waters Corporation

This is an Application Brief and does not contain a detailed Experimental section.

### Abstract

As part of the evaluation of the Ostro plate, recovery for a broad range of analytes in human and rat plasma was evaluated to judge how well potential target compounds could be quantified.

### Benefits

The Ostro plate demonstrates excellent recovery across a variety of conditions

### Introduction

Recovery determination is important for quantitative methods in that it provides a measure of the actual amount of analyte obtained from the matrix using a particular sample preparation device or technique. As part of the evaluation of the Ostro plate, recovery for a broad range of analytes in human and rat plasma was evaluated to judge how well potential target compounds could be quantified.

### Experimental

### Samples

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- Human or rat plasma fortified at high, medium, and low concentrations
  - Low concentration range: 0.2-40 ng/mL
  - Medium concentration range: 2-400 ng/mL
  - High concentration range: 20-4,000 ng/mL
- 3 loading volumes:
  - 50 µL plasma: 150 µL of 1% HCOOH in ACN
  - 100 µL plasma: 300 µL of 1% HCOOH in ACN
  - 200 µL plasma: 600 µL of 1% HCOOH in ACN

## Analyte mixture

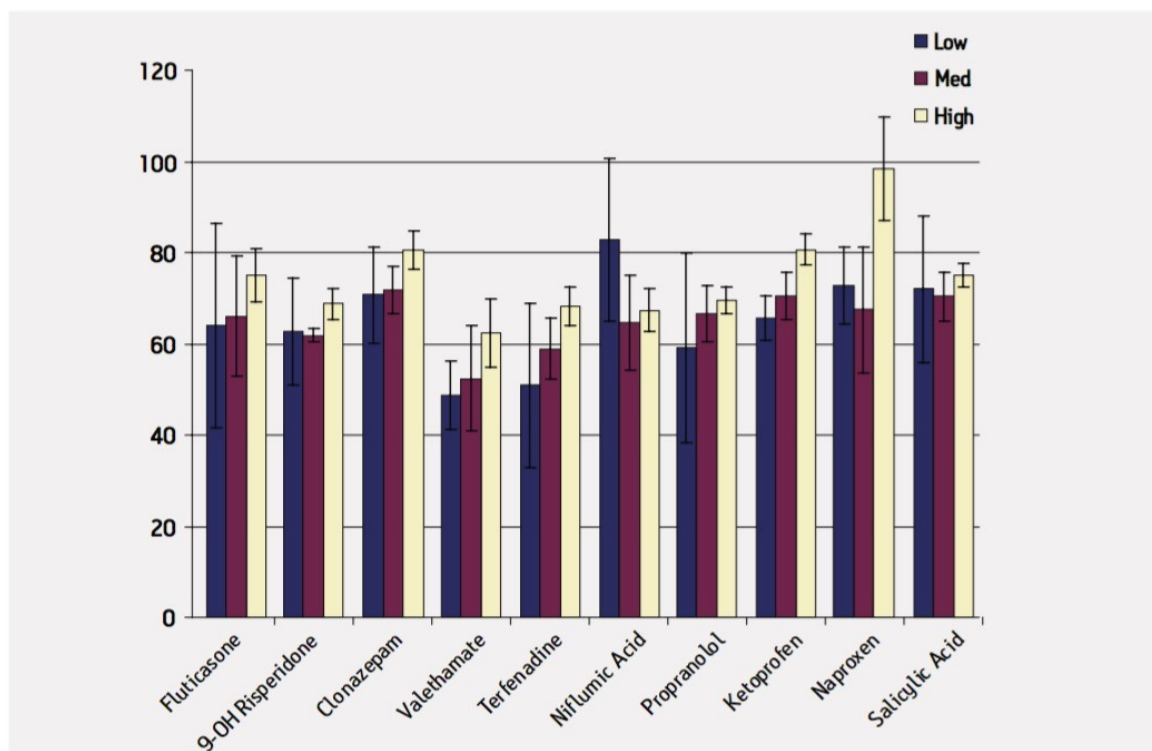
·	Fluticasone ·	Niflumic Acid
·	9-OH Risperidone ·	Propranolol
·	Clonazepam ·	Ketoprofen
·	Imipramine ·	Naproxen
·	Valethamate ·	Salicylic Acid
·	Terfenadine ·	Caffeine

## Protocol

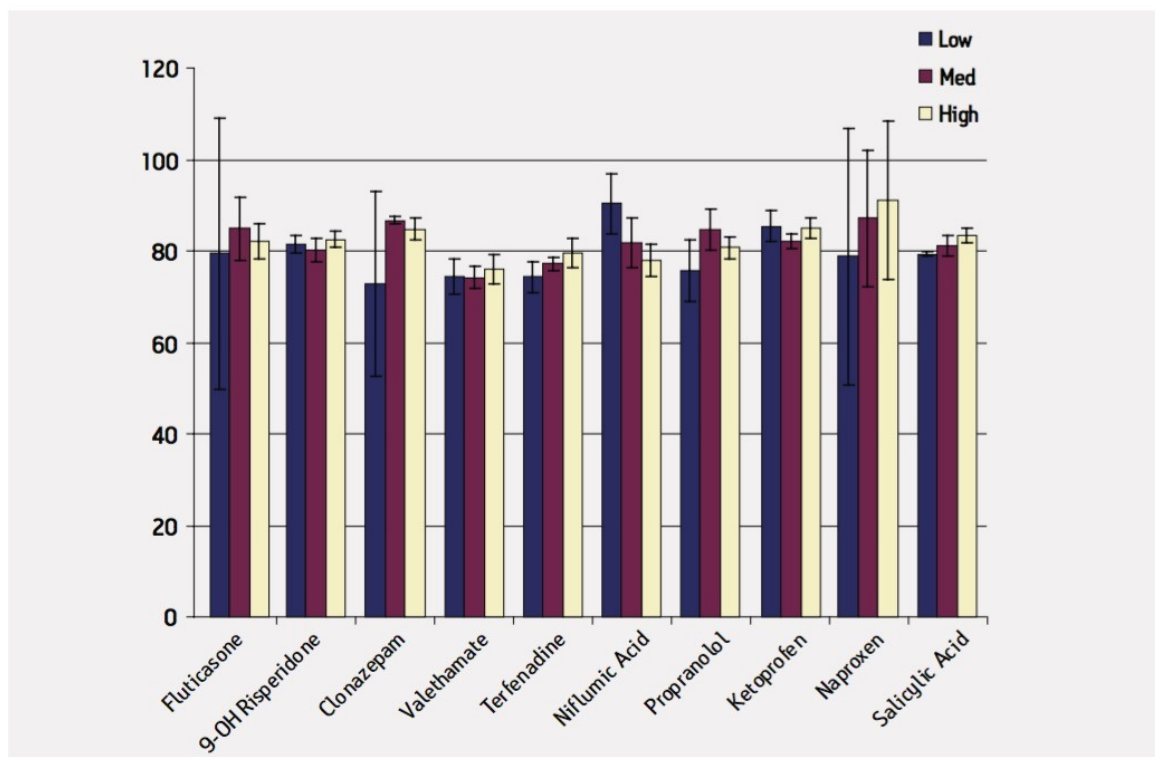
- Load plasma onto Ostro plate
- Load extraction solvent
- Aspirate 3X using electronic pipette set at same volume as extraction solvent
- Pull through using vacuum set at 15" Hg for 5 minutes
- Dry down using nitrogen gas
- Reconstitute in same volume as plasma (50 µL, 100 µL, or 200 µL)
- Inject 8 µL into 10 µL loop

## Results and Discussion

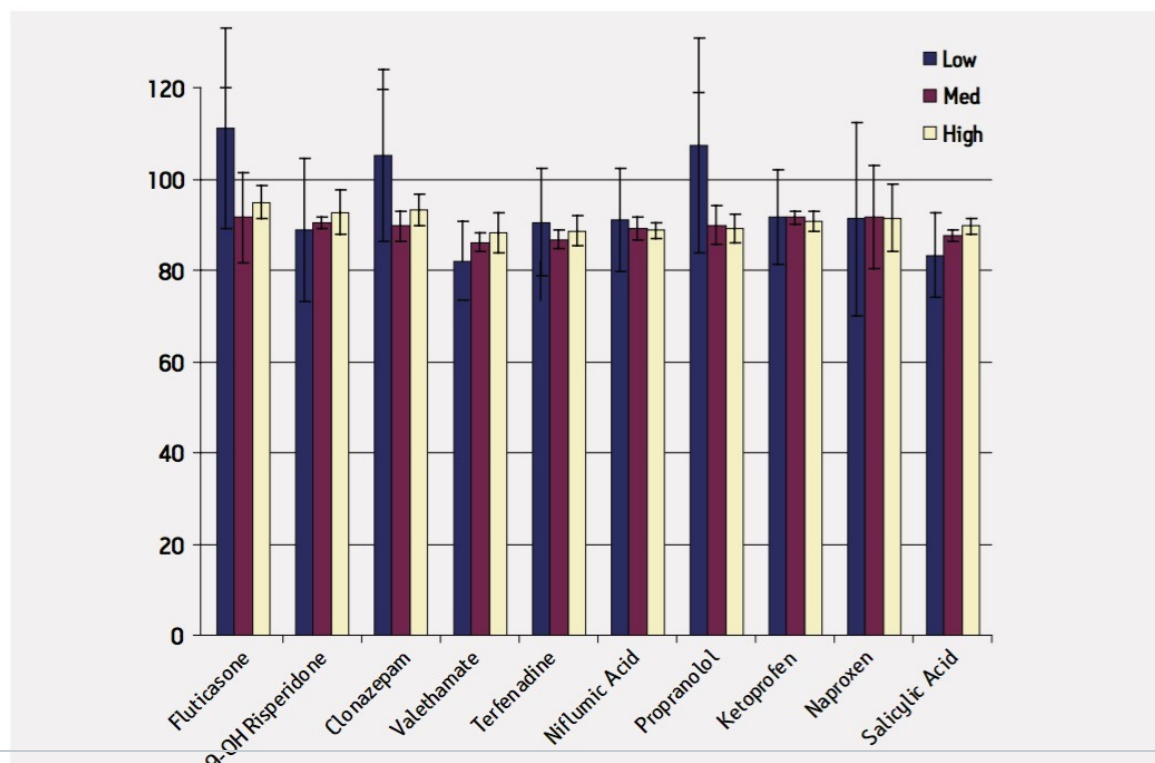
### Analyte Recovery 50 $\mu$ L Plasma Loaded: Rat Plasma



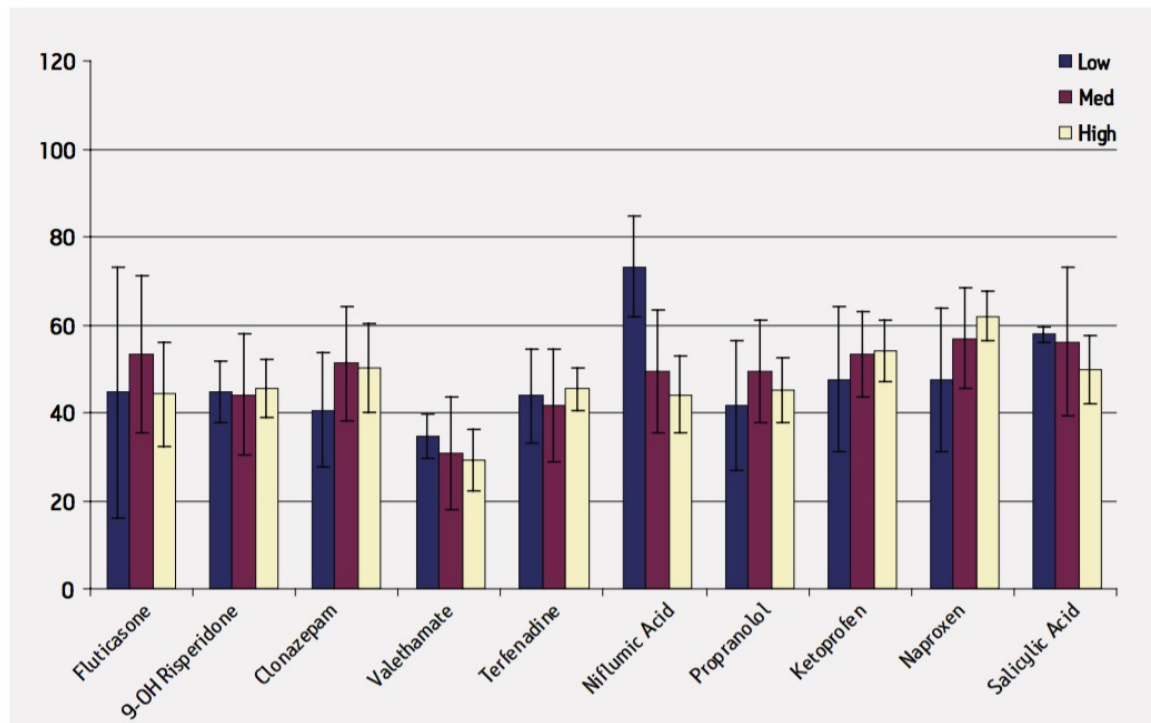
## Analyte Recovery 100 $\mu$ L Plasma Loaded: Rat Plasma



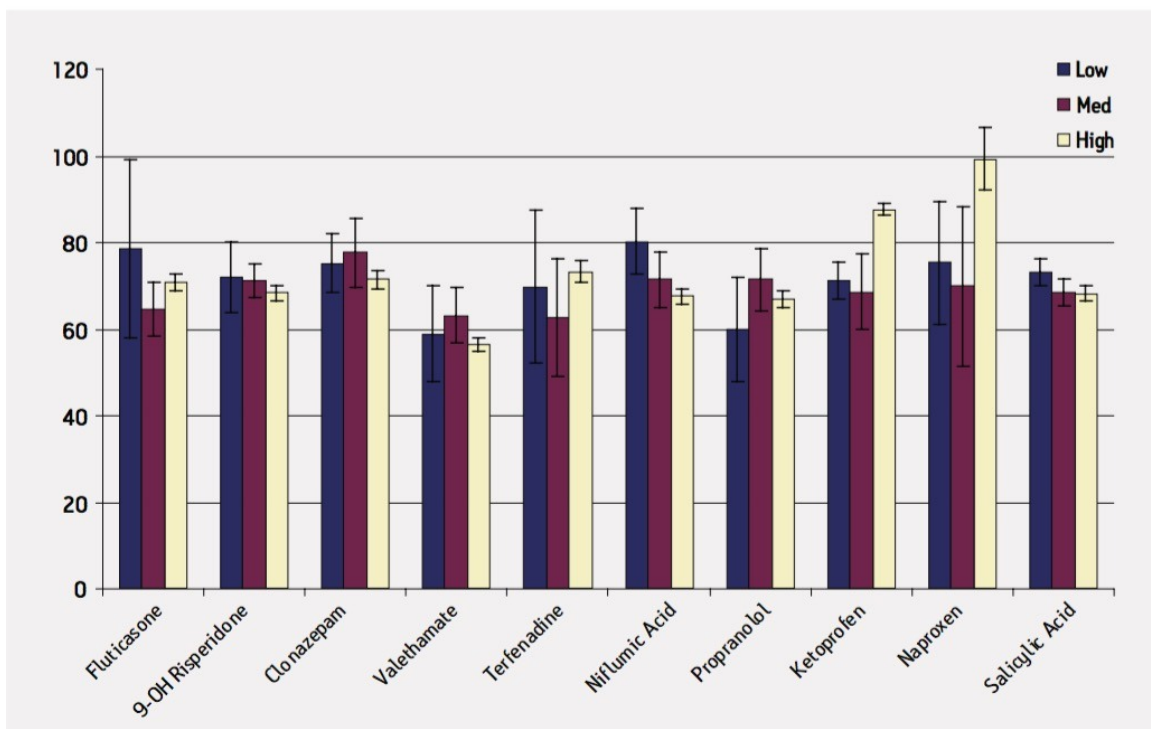
## Analyte Recovery 200 $\mu$ L Plasma Loaded: Rat Plasma



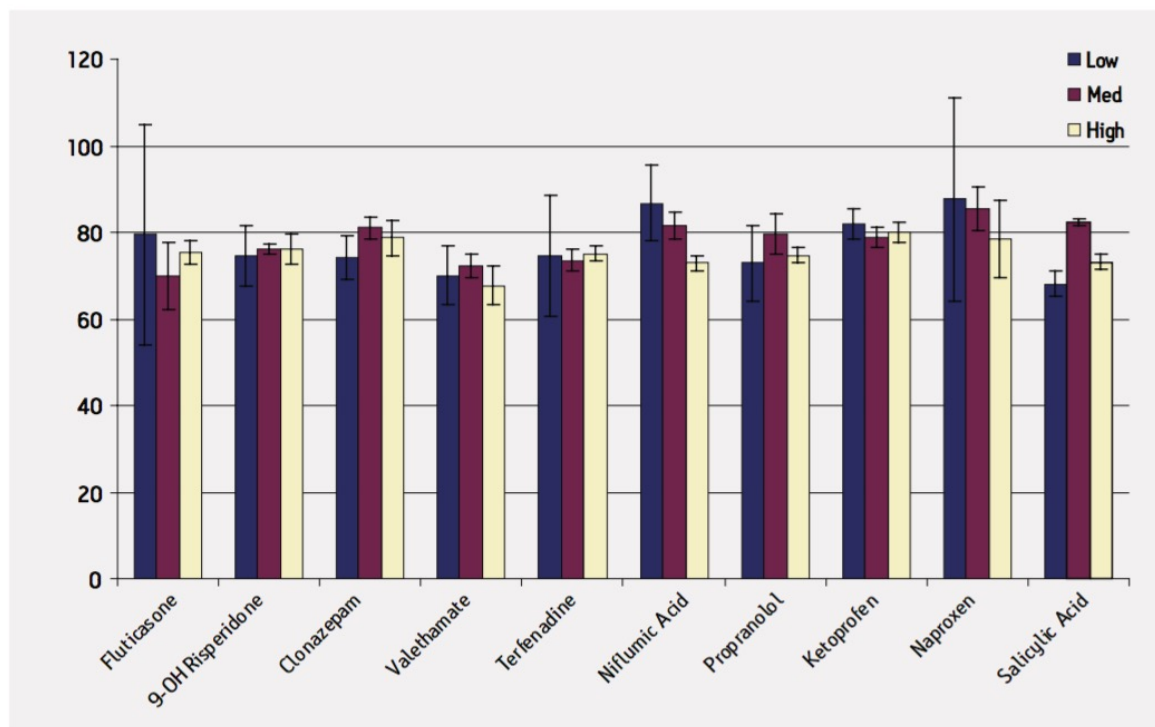
## Analyte Recovery 50 $\mu$ L Plasma Loaded: Human Plasma\*



## Analyte Recovery 100 $\mu$ L Plasma Loaded: Human Plasma



## Analyte Recovery 200 $\mu$ L Plasma Loaded: Human Plasma



*\* To improve recovery for small sample volumes, you may increase the ratio of organic solvent to plasma. Use of Waters Positive Pressure-96 Processor has also been shown to improve recovery.*

## Conclusion

The Ostro plate demonstrates excellent recovery across a variety of conditions. In this evaluation, low, medium, and high concentrations of a range of compounds were examined and were consistently recovered using the device. This robustness was shown in both rat and human plasma.

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