

Rapid Mixed-Mode SPE Method Development Using the Oasis® μ Elution Sorbent Selection Plate

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Abstract

This application demonstrates the fast and simple mixed-mode (MM) solid phase extraction (SPE) method development using the Oasis Method Development μ Elution Plate, which contains 4 sorbent chemistries (MCX, WAX, WCX, MAX), facilitating rapid screening in one experiment with only 2 protocols for the pharmaceuticals, abrocitinib, and enzalutamide.

Experimental

Pharmaceutical drug trade name	Active pharmaceutical ingredient	Molecular weight (g/mol)	LogP	pKa	pKb
Xtandi®	Enzalutamide	464.44	3.75	13.05	-1.60
CIBINQO®	Abrocitinib	323.41	0.93	11.47	6.45

Table 1. Physiochemical properties of enzalutamide and abrocitinib pharmaceuticals.

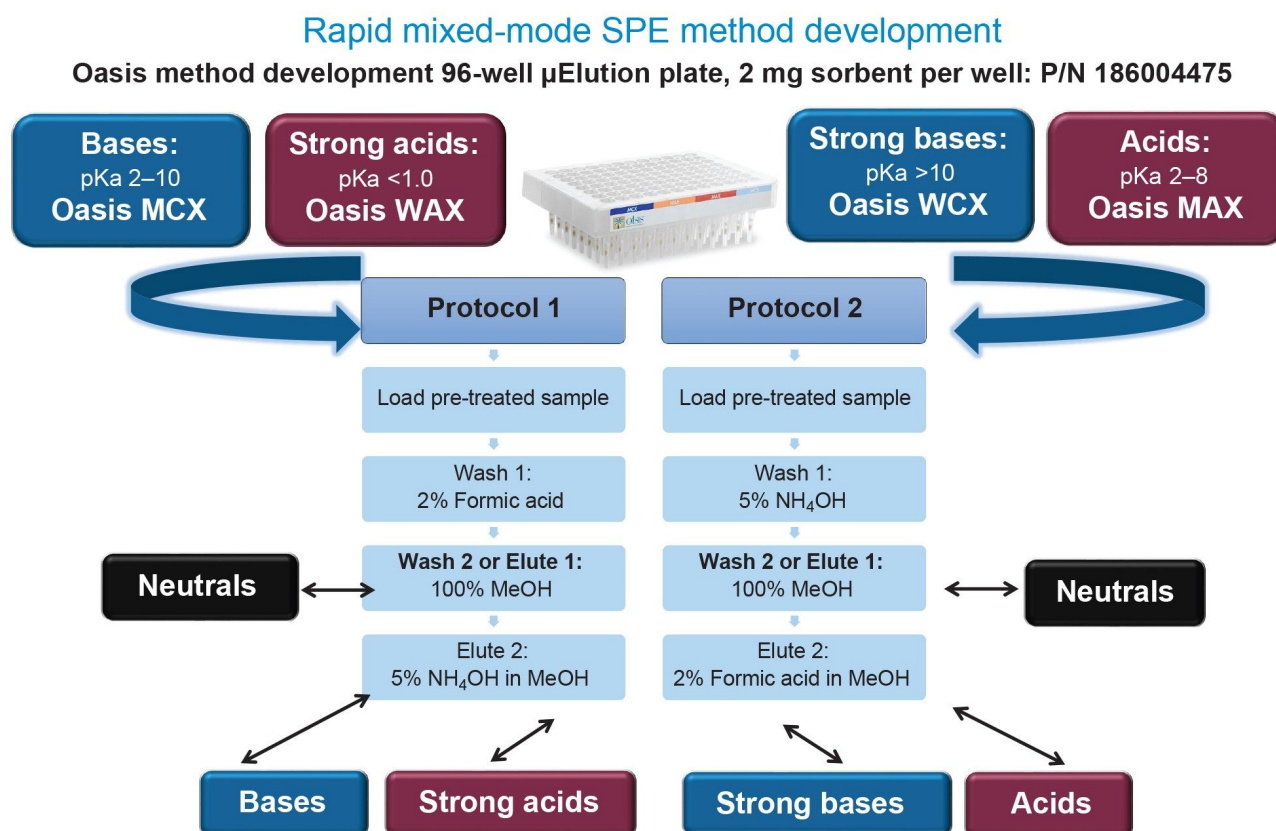


Figure 1. Representative Oasis 2x4 Mixed-Mode (MM) SPE method development protocol used with the, Oasis Method Development 96-well μ Elution Plate. This simple, logical approach provides rapid evaluation of for MM sorbent chemistries (MCX, WAX, WCX, and MAX) for a diversity of analytes (acids, bases, and neutrals), which takes the complexity out of MM SPE method development.

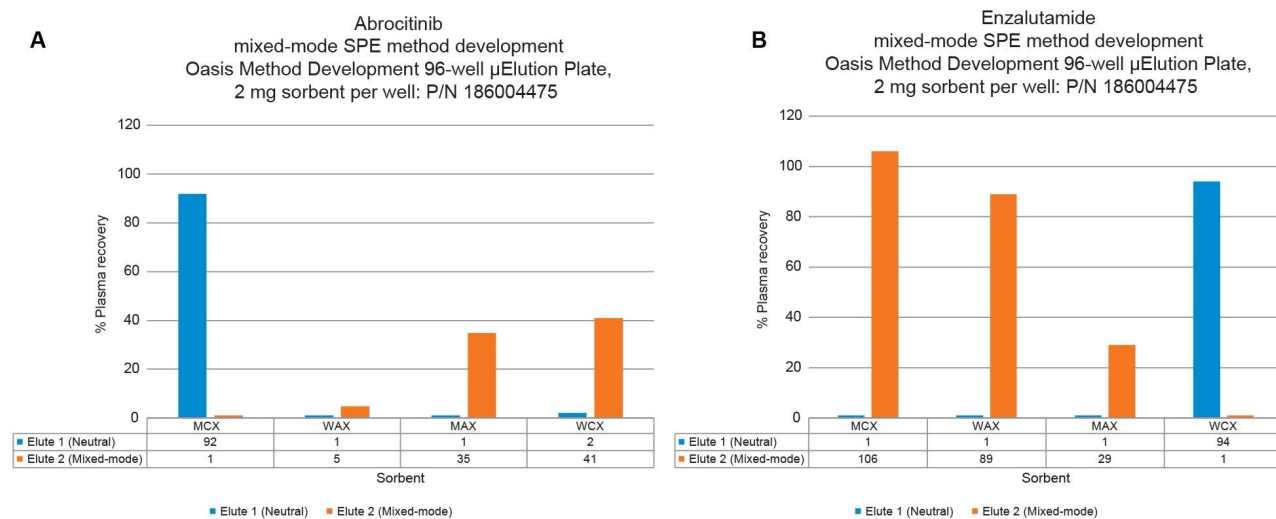


Figure 2. Demonstration of Oasis mixed-mode SPE bioanalytical extraction performance of abrocitinib (Panel A), and enzalutamide (Panel B) using the Oasis 2x4 Mixed-Mode (MM) SPE method development protocol and Oasis Method Development 96-well μ Elution Plate. Best abrocitinib recovery (92%) was found in the neutral fraction (Elute 1) using the MCX sorbent, while best enzalutamide recovery (106%) was found using the MCX sorbent and the mixed-mode fraction (Elute 2).

Results and Discussion

The Oasis Method Development μ Elution Plate and starting protocols provide quick and easy mixed-mode SPE method development in one experiment, facilitating high analyte recovery, and selectivity (low matrix effects) from plasma.

Ordering Information

Description	P/N
Oasis Method Development 96-well μ Elution Plate, 2 mg Sorbent per Well	186004475
96-well Sample Collection Plate, 700 μ L Round well	186005837
Polypropylene Cap Mat Round Well for 96-well Plate	186002483

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