

Application Data Sheet

No.24

LC
Liquid Chromatograph

Ultra-Fast, High-Sensitivity Analysis of Degradation Products in Valsartan

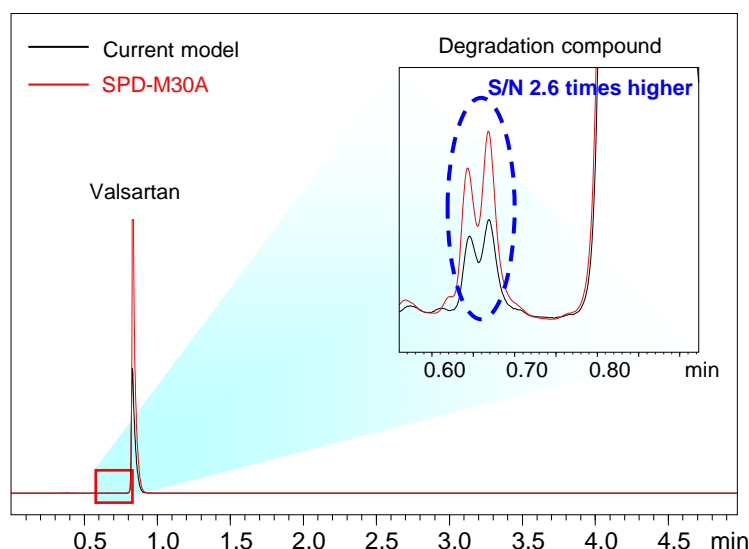
The need for reliable separation and quantification of minute quantities of pharmaceutical impurities suspected of genetic toxicity continues to grow. Using the SPD-M30A high-sensitivity photodiode array detector permits high-sensitivity detection of extremely trace amounts of components.

Introduced here is an example of ultra-fast, high-sensitivity simultaneous analysis of valsartan degradation products.

Example of Analysis of Valsartan

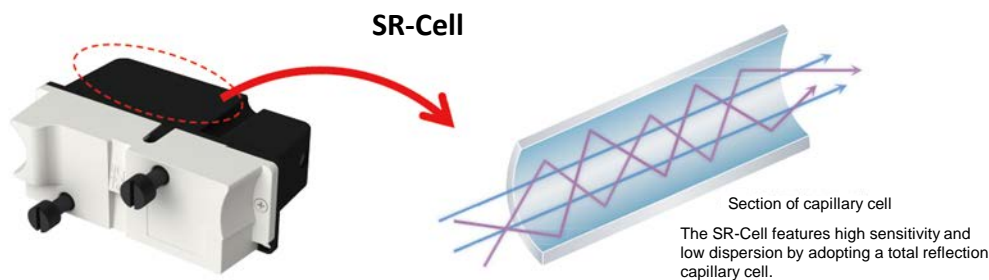
Analysis of the degradation products of valsartan was conducted using the Nexera SR ultra high performance liquid chromatograph (UHPLC). This system, which incorporates the SPD-M30A high-sensitivity photodiode array detector, utilizes the newly designed capillary SR-Cell (Sensitivity and Resolution Cell), successfully achieving both low noise and high sensitivity. Using the SPD-M30A permits high-sensitivity detection of extremely trace amounts of impurities.

Column	: Kinetex 2.6µm XB-C18 100A (100 mL. x 3.0 mmI.D., 2.6µm)
Mobile Phase	: Acetic acid/Acetonitrile/Water =1/500/500
Flow Rate	: 1.5 mL/min
Column Temp.	: 30 °C
Injection Volume	: 10 µL
Detection	: 245nm



Newly-Designed SR-Cell

If a conventional cell's optical path length is shortened, although scattering will be minimal, sensitivity will be reduced. Conversely, if the optical path length is extended, the peak width will increase, as will noise and drift. The new capillary SR-Cell (Stability and Resolution Cell) overcomes these limitations. By optimizing the cell's optical path length and width, both low noise and high sensitivity have been achieved. It can be applied to analyses from UHPLC to HPLC without replacing the flow cell.



First Edition: January, 2013