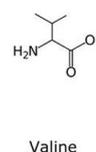
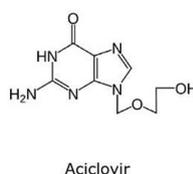
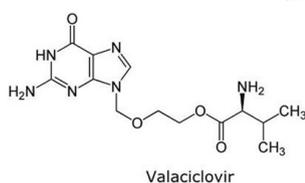
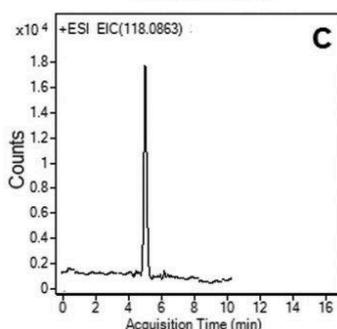
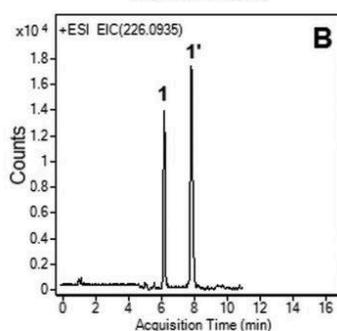
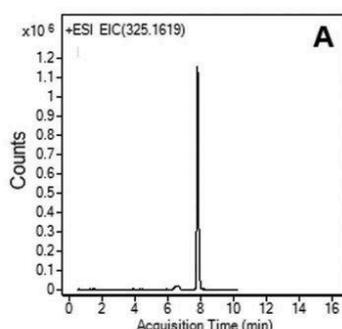


## Valaciclovir and Degradants Acyclovir and D,L-Valine Analyzed with LC-MS – AppNote

### Separation of Valaciclovir from two Degradants

The anti-viral Herpes drug Valaciclovir and its degradation products are analyzed using Aqueous Normal Phase HPLC with MS detection. The Method development was completed using UV detection, where excellent Separation between the Prodrug Valaciclovir and its active converted degradant, Acyclovir, was observed.

The Method transfer from UV to MS detection was accomplished using only a change of the flow rate. When MS detection was used, a second Degradant (D,L-Valine, formed from hydrolysis of the prodrug) was also detected without derivatization.



## Peaks:

Figure A: Valaciclovir 325.1619 m/z

Figure B: Acyclovir 226.0935 [M+H]<sup>+</sup> (degradant / active form)

Peaks 1 and 1' have the same mass. 1' is the Peak that corresponds to the Acyclovir formed in the source

Figure C: D,L-Valine 118.0863 m/z [M+H]<sup>+</sup>

## Method Conditions

**Column:** Cogent Diamond Hydride™, 4 µm, 100 Å

**Catalog No.:** [70000-15P-2](#)

**Dimensions:** 2.1 x 150 mm

### Mobile Phase:

- A: DI Water with 0.1% Formic Acid (v/v)
- B: Acetonitrile with 0.1% Formic Acid (v/v)

### Gradient:

Time (minutes)	%B
0	95
1	95
6	40
7	40
8	95

**Post Time:** 3 minutes

**Injection vol.:** 1 µL

**Flow rate:** 0.4 mL / minute

**Detection:** ESI – POS - Agilent 6210 MSD TOF Mass Spectrometer

**Sample Preparation:** Stock Solution: 1000 mg strength Valtrex® tablet was ground and added to 100mL volumetric flask containing 50 mL 50:50 DI Water / Acetonitrile diluent. The solution was sonicated 10 minutes, diluted to mark, and mixed. A portion was filtered through a 0.45 µm Nylon Syringe Filter (MICROSOLV Tech Corp.). The stock solution was diluted 1:100 with 50:50 Acetonitrile / DI Water (Figure A). Another aliquot was diluted 1:100 with 50:50 1N HCL / Acetonitrile mixture and heated at 85°C for 30 minutes (Figures B and C).

**t<sub>0</sub>:** 0.9 minutes



**Attachment No 256 Valaciclovir & Degradants Analyzed with LCMS pdf 0.3 Mb** [Download File](#)

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**MicroSolv Technology Corporation**

9158 Industrial Blvd. NE, Leland, NC 28451

Tel: (732) 380-8900

Fax: (910) 769-9435

Email: [customers@mtc-usa.com](mailto:customers@mtc-usa.com)

Website: [www.mtc-usa.com](http://www.mtc-usa.com)