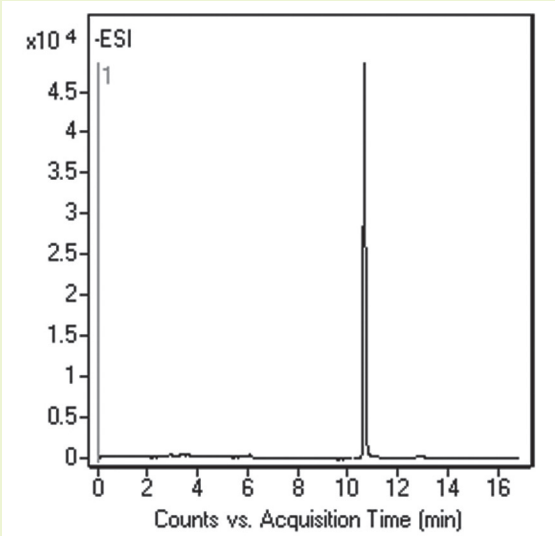
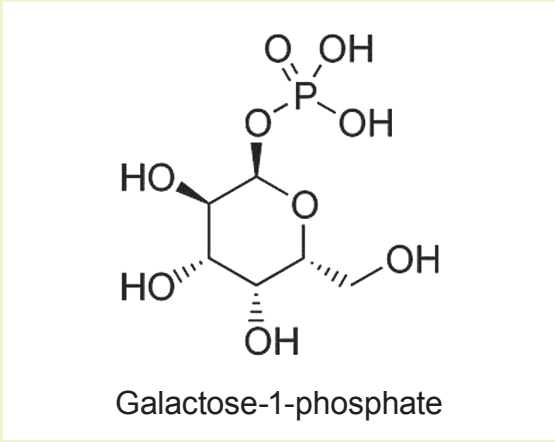
Galactose-1-Phosphate

Clinical screening method





Galactose-1-phosphate

Note: The biochemical mechanism of (Gal 1-P) toxicity is still unknown. Recent experiments strongly suggest that galactose-1-phosphate is also a substrate for inositol monophosphatase (IMPase). The brain is critically dependent on IMPase for the supply of free inositol in order to sustain signaling. There is evidence which strongly supports the possibility that being a substrate, Gal 1-P could modulate IMPase function *in vivo*. This modulation has a role in a bipolar disorder.

Method Conditions

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

Catalog No.: 70000-15P-2

Dimensions: 2.1 x 150 mm

Solvent: A: DI H_2O / 0.1% formic acid (v/v)
B: 90% acetonitrile / 10% DI H_2O / 16.5 mM ammonium acetate (v/v)

Gradient:

time (min.)	%B
0	95
1	95
3	85
6	85
7	75
9	75
10	50
12	50
13	30
15	30
15.00	95

Post Time: 5 min

Injection vol.: 1µL

Flow rate: 0.4 mL/min

Detection: ESI – NEG - Agilent 6210 MSD TOF mass spectrometer

Sample: Stock Standard: 1mg/mL galactose-1-phosphate in DI H_2O, stored at -20°C.
Working Solution: Stock was diluted 1:100 with 50% acetonitrile / 50% DI H_2O solution.

Peak: Galactose-1-phosphate, 259.0224 m/z $(M-H)^-$

t_0: 0.9 min

Discussion

This method is useful as a quantitative screening or routine clinical test to detect infants suspected of having a defect of galactose metabolism. It can also be used to monitor blood levels of galactose-1-phosphate in children with galactosemia who are on a lactose-free diet.

MANUFACTURED BY:
MICROSOLV TECHNOLOGY CORPORATION

9158 Industrial Blvd NE
Leland, NC 28451

p: 1.732.380.8900
f: 1.910.769.9435

customers@mtc-usa.com
www.Cogent-HPLC.com