

# APPLICATION

## Sugar Analysis from Animal Feed using Luna<sup>®</sup> Omega SUGAR LC Columns

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### Overview

Evaluating the sugar content of animal feed is important for providing proper nutrition and strong animal performance. Using the Luna Omega SUGAR column, the six sugars were fully resolved with better than baseline resolution. The gradient method also resolved an interference peak near fructose on the horse feed sample.

### Sample Preparation

1. Grind animal feed with a spice grinder, or similar, until homogenous.
2. Weigh out 1 g of sample into a centrifuge tube.
3. Add 25 mL of 50:50 ethanol/water to the tube.
4. Shake the tube on a shaker for 1 hour at room temperature.
5. Bring up to 50 mL with 50:50 ethanol/water and invert to mix.
6. Centrifuge for 15 minutes at max rpm.
7. Filter supernatant with a 0.45  $\mu$ m PTFE syringe filter followed by a 0.2  $\mu$ m PTFE syringe filter. (0.2  $\mu$ m filtration step was to ensure no clogging of the UHPLC system. 0.45  $\mu$ m filtration may be sufficient for HPLC systems.)

### Conditions for all samples:

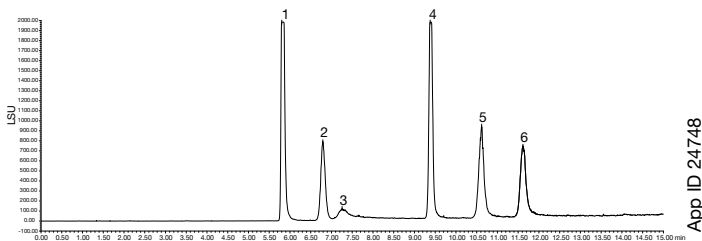
**Column:** Luna Omega 3  $\mu$ m SUGAR  
**Dimensions:** 150 x 4.6 mm  
**Part No.:** 00F-4775-E0  
**Mobile Phase:** A: Water  
B: Acetonitrile/Isopropanol/Water (90:5:5)  
**Gradient:**

| Time (min) | % B |
|------------|-----|
| 0          | 90  |
| 0.5        | 90  |
| 15.5       | 70  |
| 17         | 70  |
| 18         | 90  |
| 20         | 90  |

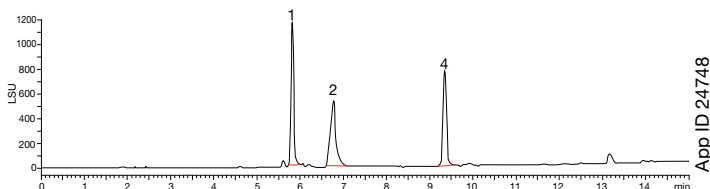
**Flow Rate:** 1.0 mL/min  
**Temperature:** 35  $^{\circ}$ C  
**Injection Volume:** 5  $\mu$ L  
**Detection:** ELSD  
**Sample:**

1. Fructose
2. Glucose
3. Galactose
4. Sucrose
5. Maltose
6. Lactose

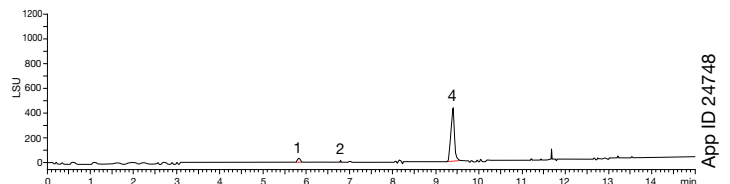
### Standards



### Animal Feed



### Horse Feed



# APPLICATION

## Luna<sup>®</sup> Omega SUGAR Ordering Information

| 3 µm Minibore Columns (mm) |             |             |             | SecurityGuard <sup>™</sup><br>Cartridges (mm) |
|----------------------------|-------------|-------------|-------------|-----------------------------------------------|
| Phases                     | 50 x 2.1    | 100 x 2.1   | 150 x 2.1   | 4 x 2.0*                                      |
|                            |             |             |             | /10pk                                         |
| <b>SUGAR</b>               | 00B-4775-AN | 00D-4775-AN | 00F-4775-AN | AJ0-4496                                      |
|                            |             |             |             | for ID: 2.0-3.0 mm                            |

| 3 µm MidBore <sup>™</sup> Columns (mm) |             | SecurityGuard <sup>™</sup><br>Cartridges (mm) |
|----------------------------------------|-------------|-----------------------------------------------|
| Phases                                 | 150 x 3.0   | 4 x 2.0*                                      |
|                                        |             | /10pk                                         |
| <b>SUGAR</b>                           | 00F-4775-YO | AJ0-4496                                      |
|                                        |             | for ID: 2.0-3.0 mm                            |

| 3 µm Analytical Columns (mm) |             |             |             | SecurityGuard <sup>™</sup><br>Cartridges (mm) |
|------------------------------|-------------|-------------|-------------|-----------------------------------------------|
| Phases                       | 100 x 4.6   | 150 x 4.6   | 250 x 4.6   | 4 x 3.0*                                      |
|                              |             |             |             | /10pk                                         |
| <b>SUGAR</b>                 | 00D-4775-E0 | 00F-4775-E0 | 00G-4775-E0 | AJ0-4495                                      |
|                              |             |             |             | for ID: 3.2-8.0 mm                            |



\* SecurityGuard Standard Analytical Cartridges require holder, Part No.: KJ0-4282

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### Trademarks

Luna is a registered trademark, and SecurityGuard and MidBore are trademarks of Phenomenex.

SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362

CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

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