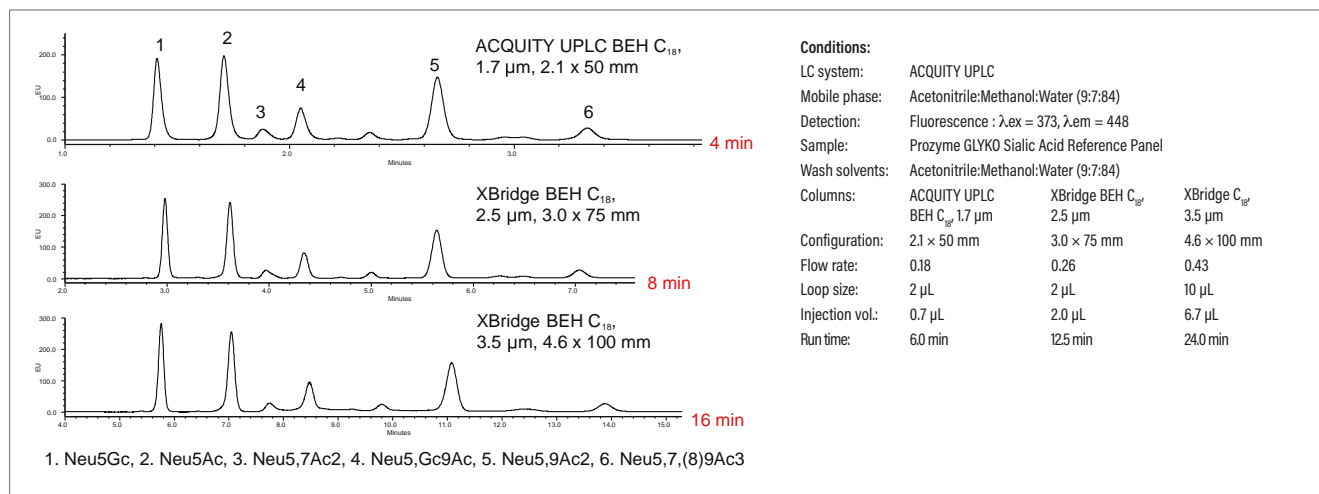


Sialic Acid Analyses

A diverse range of sialic acids are found in nature, but the two major sialic acids species found on N and O-linked glycans contained in biopharmaceuticals are N-acetyl-neuraminic acid (Neu5Ac) and N-glycolyl-neuraminic acid (Neu5Gc). Since sialylation can enhance serum half-life as well as affect biological activity, it is important to accurately monitor both the quantitative levels and types of sialic acids during all stages of the product life cycle. Many LC-based methods begin with the release of the targeted sialic acids under milder acid hydrolysis conditions (e.g., 2 M acetic acid for 2 hours at 80 °C). The released sialic acids can be then derivatized with 1, 2-diamino-4, 5-methylenedioxybenzene-2HCl (DMB) dye. Of particular importance is the fact that DMB labeled sialic acids are light sensitive and liable to degradation and should be analyzed within 24 hours of labeling. This can become a significant problem if a large number of samples need to be analyzed using traditional HPLC-based techniques that can take more than 30 minutes per sample analysis.

UPLC vs. HPLC-Based Analyses Of DMB-Labeled, Sialic Acid Test Mix



Geometric scaling of DMB-labeled sialic acid standards on XBridge BEH C₁₈, 130Å, 3.5 μm particle (bottom), 2.5 μm particle (middle), and ACQUITY UPLC BEH C₁₈, 130Å, 1.7 μm particle (top).

Note the higher throughput and improved component resolution associate with the 1.7 μm particle technology.

Ordering Information

ACQUITY UPLC BEH 130Å Columns

	Dimension	P/N
	Particle Size: 1.7 μm	
C ₁₈ , 130Å	2.1 × 50 mm	186002350
	2.1 × 100 mm	186002352
	2.1 × 150 mm	186004742

XBridge BEH 130Å Columns

	Dimension	P/N	Dimension	P/N	Dimension	P/N
	Particle Size: 2.5 μm		Particle Size: 3.5 μm		Particle Size: 5 μm	
C ₁₈ , 130Å	2.1 × 100 mm XP	186006031	2.1 × 100 mm	186003033	4.6 × 100 mm	186003115
	3.0 × 100 mm XP	186006035				
	3.0 × 150 mm XP	186006710				