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Analysis of the Derivatives of Sialic Acid in Pig Tissues

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Protocol Information

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Summary: Sialic acid is a generic term for the N- or O-substituted derivatives of neuraminic acid, a monosaccharide with a nine-carbon backbone. N-glycolylneuraminic acid (Neu5Gc or NGNA) is not synthesized in the human body, so most of the sialic acid in the body is N-acetylneuraminic acid (Neu5Ac or NANA), while other animals have two kinds of sialic acid (NANA and NGNA). There may be NGNA in biotech products manufactured from nonhuman animal source, and a detectable method is needed to determine the derivatives of sialic acid in the product.

Associated Publications: Tu C, Chuang C, Hsiao K, Chen C, Chen C, Peng S, Su Y, Chiou M, Yen C, Hung S, Yang T, Chen C (2019) Lessening of porcine epidemic diarrhoea virus susceptibility in piglets after editing of the CMP-N-glycolylneuraminic acid hydroxylase gene with CRISPR/Cas9 to nullify N-glycolylneuraminic acid expression. PLoS ONE 14(5): e0217236. doi: [10.1371/journal.pone.0217236](https://doi.org/10.1371/journal.pone.0217236)

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