



## Certificate of Analysis

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### IgG Glycan Library

Cat. #: CLIBN-IGG-01

Batch #: B1B7-01

Size: approx 25 µg

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**Description:** A mixture of fucosylated, bi-antennary glycan standards with variable sialylation released from human IgG antibody glycoprotein.

**Source:** The glycans in this product are released from an IgG standard that is purified from human serum. IgG exists in a variety of glycoforms containing bi-antennary oligosaccharides with variable sialylation.

**Form:** Dry. Lyophilised powder.

**Storage:** Refrigerate (-20°C) both before and after dissolving. This product is stable for at least 5 years as supplied.

**Shipping:** The product is shipped at ambient temperature.

**Handling:** Once dissolved, avoid repeated thawing and refreezing, storage over 3 h at room temperature or above, exposure to light and long term exposure to acid as these will cause glycan desialylation.

**Safety:** This product is non-hazardous and has been purified from natural sources certified to be free of all hazardous material including pathogenic biological agents.

**For research use only. Not for human or drug use**

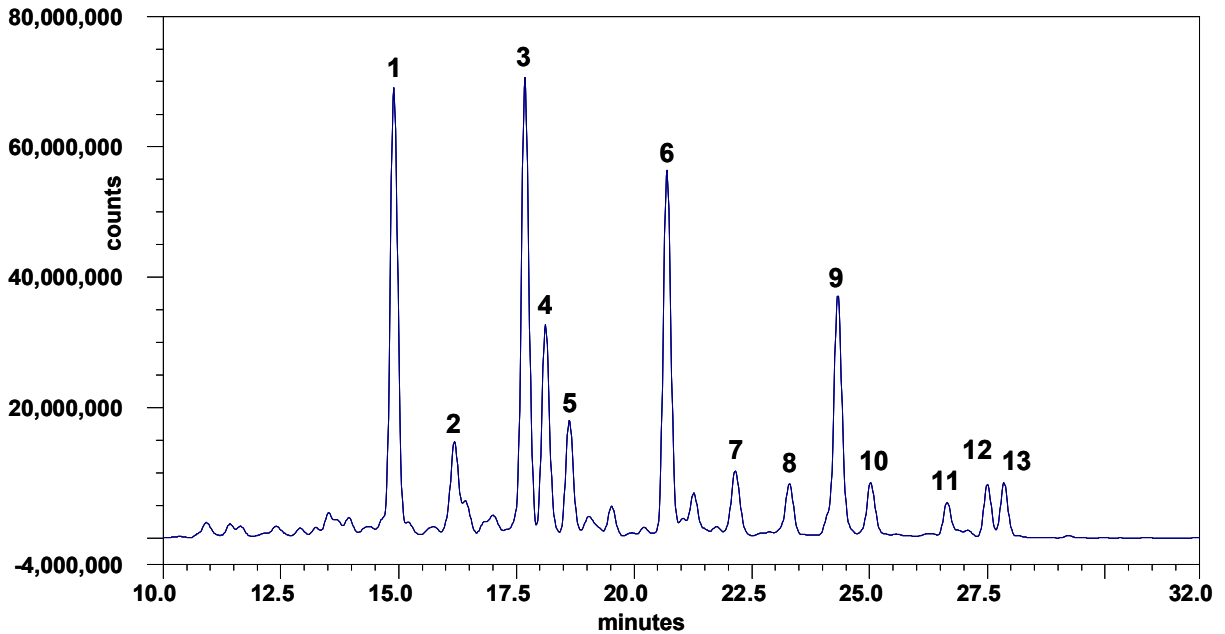


Figure 1: BEH UPLC Profile of 2AA Labelled IgG N-Glycans released from Human IgG antibody by N-mode hydrazinolysis (Cat. #: CLIB-IGG-01, Batch #B1B7-01). Table 1 shows peak assignments.

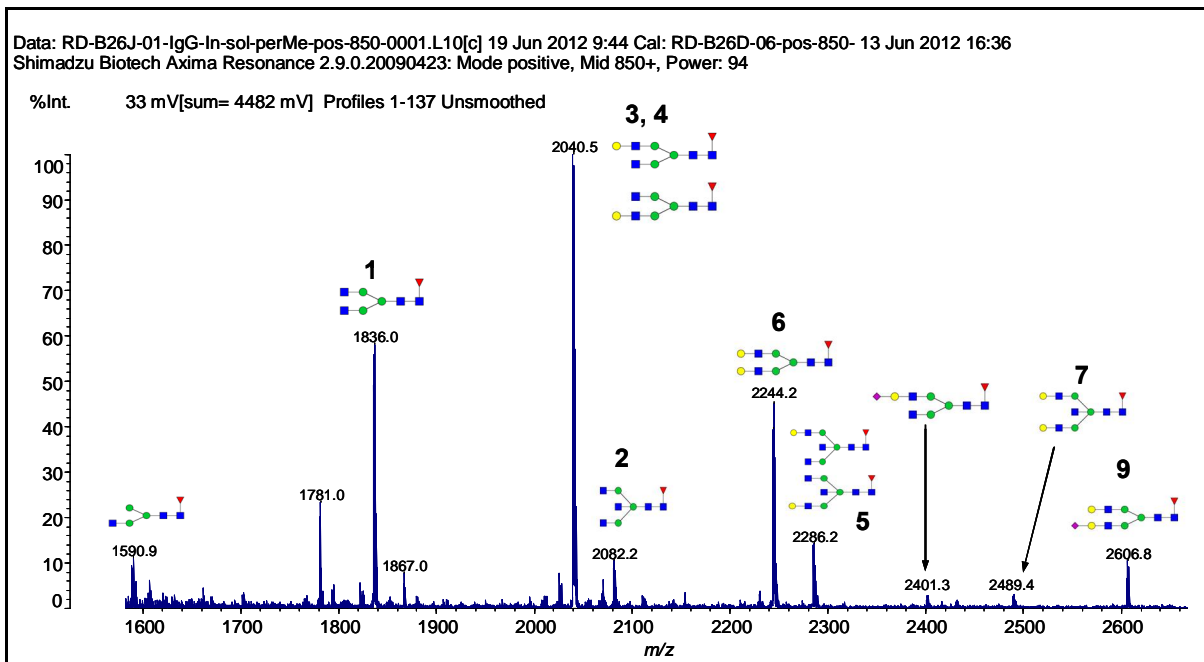


Figure 2: Mass spectrum of permethylated IgG N-Glycans released from Human IgG antibody by N-Mode hydrazinolysis. Analysis performed on Shimadzu Biotech Resonance MALDI-Ion Trap with DHB matrix. Table 1 shows peak assignments.

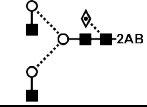
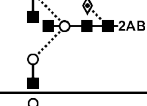
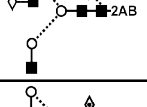
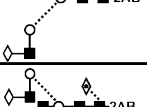

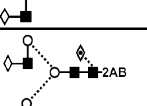
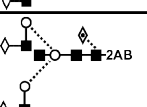
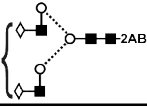
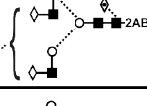
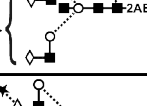
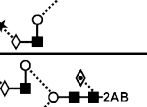
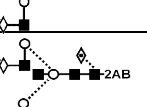
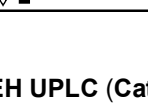

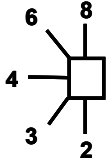
Peak ID	Full name	Short name	Structure	% Relative peak area
1	F(6)A2	FA2		19.5
2	F(6)A2B	FA2B		5.97
3	F(6)A2[6]G(4)1	FA2G1		19.5
4	F(6)A2[3]G(4)1	FA2G1		8.87
5	F(6)A2[6]BG(4)1	FA2BG1		4.94
	F(6)A2[3]BG(4)1	FA2BG1		
6	F(6)A2G(4)2	FA2G2		15.16
7	F(6)A2BG(4)2	FA2BG2		3.38
8	A2G(4)2S1	A2G2S1		2.72
9	F(6)A2G(4)2S1	FA2G2S1		11.26
10	F(6)A2BG(4)2S1	FA2BG2S1		2.7
11	A2G(4)2S2	A2G2S2		1.53
12	F(6)A2G(4)2S2	FA2G2S2		2.16
13	F(6)A2BG(4)2S2	FA2BG2S2		2.31

Table 1: Structures and names of each peak from the BEH UPLC (Cat. #: CLIB-IGG-01, Batch #B1B7-01)

## Nomenclature

<i>Symbol for sugar</i>	<i>Linkage position</i>
□ Glc	
■ GlcNAc	
★ NeuNAc	
◇ Gal	
◆ GalNAc	
◊ Fuc (deoxy galactose)	
○ Man	
	<i>Linkage type</i>
	— β-linkage
	..... α-linkage

### Structure Abbreviations

All N-glycans have two core GlcNAcs; F at the start of the abbreviation indicates a core fucose, (6) after the F indicates that the fucose is 1-6 linked to the inner GlcNAc; M<sub>x</sub>, number (x) of mannose on core GlcNAcs; A<sub>x</sub>, number of antenna (GlcNAc) on trimannosyl core; A<sub>2</sub>, biantennary with both GlcNAcs as 1-2 linked; A<sub>3</sub>, triantennary with a GlcNAc linked 1-2 to both mannose and the third GlcNAc linked 1-4 to the 1-3 linked mannose; A<sub>3q</sub> triantennary with a GlcNAc linked 1-2 to both mannose and the third GlcNAc linked 1-6 to the 1-6 linked mannose; A<sub>4</sub>, GlcNAcs linked as A<sub>3</sub> with additional GlcNAc 1-6 linked to 1-6 mannose; B, bisecting GlcNAc linked 1-4 to 1-3 mannose; G<sub>x</sub>, number (x) of linked galactose on antenna, (4) or (3) after the G indicates that the Gal is 1-4 or 1-3 linked; [3]G1 and [6]G1 indicates that the galactose is on the antenna of the 1-3 or 1-6 mannose; S<sub>x</sub>, number (x) of sialic acids linked to galactose; the numbers 3 or 6 in parentheses after S indicate whether the sialic acid is in an 2-3 or 2-6 linkage.