

SUPPLEMENTARY FIGURES FOR:

Title: IgA-deficient humans exhibit gut microbiota dysbiosis despite secretion of compensatory IgM

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LEGEND:

Supplemental Figure 1 | Representative flow cytometric analysis of IgA coated bacteria in a healthy subject and IgM coated bacteria in an IgA deficient subject.

Supplemental Figure 2 | Alpha Diversity analyses in healthy controls (HC), slgAd subjects (all, >12m: no antibiotics in >12 months, <12m: treated with antibiotics within 12 months) as measured by observed species (OTU), Chao1 and Shannon Diversity Index

Supplemental Figure 3 | Scatterplot comparison time from last antibiotic in months and Chao1. r: Spearman rank correlation coefficient.

Supplemental Figure 4 | Bar plots depicting relative abundances of phyla from fifteen slgAd subjects and healthy controls.

Supplemental Figure 5 | Cladogram generated from linear discriminant effect size (LEfSe) comparisons between healthy controls and slgAd subjects with $p < 0.05$.

Supplemental Figure 6 | Linear discriminant analysis (LDA) scores for differentially abundant taxa enriched in healthy controls versus slgAd subjects with $p < 0.05$.

Supplemental Figure 7 | Relative abundances of species level taxa in slgAd subjects who had not received an antibiotic in the previous twelve months versus healthy controls. * $p < 0.05$, ** $p < 0.01$

Supplemental Figure 8 | Alpha Diversity analyses (observed species (OTU), Chao1 and Shannon Diversity Index) of antibody coated and non-coated fecal bacteria from healthy controls (HC) and slgAd subjects (all, >12m: no antibiotics in >12 months, <12m: did receive antibiotics within 12 months). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ by Mann Whitney U test.

Supplemental Figure 9 | Principal coordinate analyses of unweighted and weighted UniFrac distances for uncoated taxa from healthy controls and slgAd subjects.

Supplemental Figure 10 | Relative abundances of bacterial taxa in slgAd subjects and healthy control subjects that were previously demonstrated to be significantly more abundant in the IgM coated fraction than non-coated in slgAd subjects * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ by Mann Whitney U test.

Supplemental Figure 11 | ICI scores for the 8 taxa that were demonstrated significantly different relative abundances between slgAd and healthy controls. * $p < 0.05$ by Mann Whitney U test.

Supplemental Figure 12 | Scatterplot comparison of time from last antibiotic in months and Chao1 for slgAd subjects who provided a second sample 6-10 months after initial sample collection. r: Spearman rank correlation coefficient.

Supplemental Table 1 | Relative abundances of taxa for each healthy control or IgA deficient subject with p values from Mann Whitney U test and q values from the false discovery rate (FDR) using the Benjamini and Hochberg method

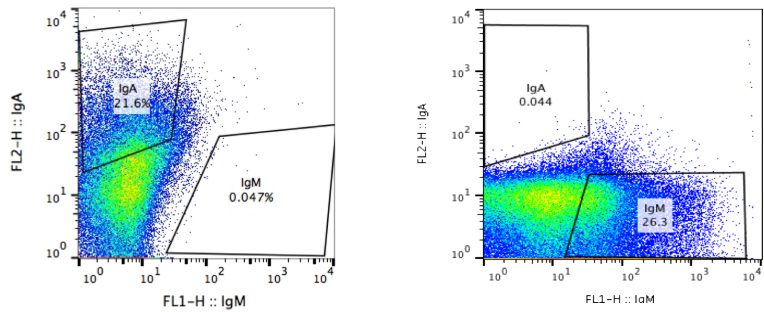
Supplemental Table 2 | Relative abundances of taxa for each healthy control either IgA coated (HCPOS) or noncoated (HCNEG) with p values from Mann Whitney U test and q values from the false discovery rate (FDR) using the Benjamini and Hochberg method

Supplemental Table 3 | Relative abundances of taxa for each slgAd subject either IgM coated (IGAD_POS) or noncoated (IGAD_NEG) with p values from Mann Whitney U test and q values from the false discovery rate (FDR) using the Benjamini and Hochberg method

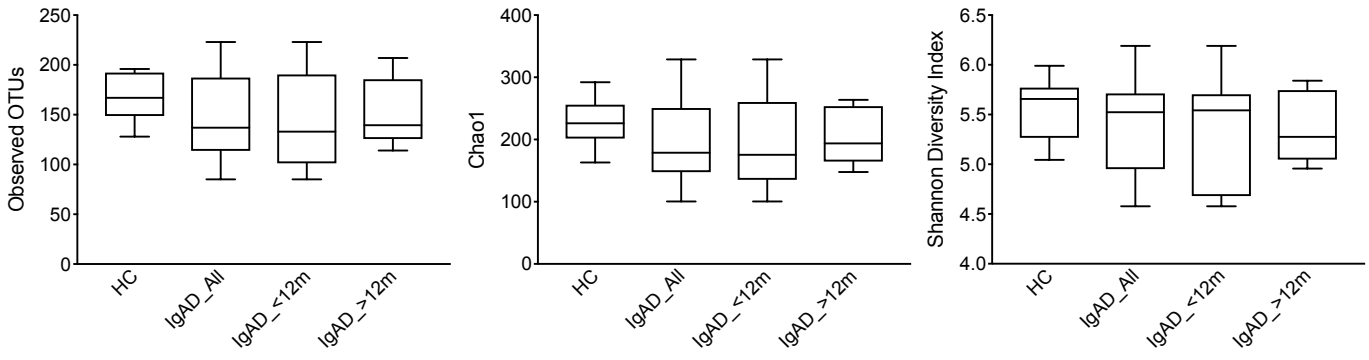
Supplemental Table 4 | Relative abundances of taxa for each subject either HC – initial sample (HC_orig) or HC – follow up sample (HC_second) with p values from Mann Whitney U test and q values from the false discovery rate (FDR) using the Benjamini and Hochberg method

Supplemental Table 5 | Relative abundances of taxa for each subject either slgAd – initial sample (slgAd_orig) or slgAd – follow up sample (slgAd_second) with p values from Mann Whitney U test and q values from the false discovery rate (FDR) using the Benjamini and Hochberg method

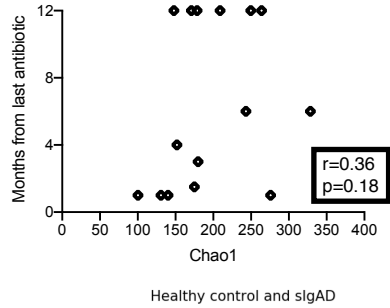
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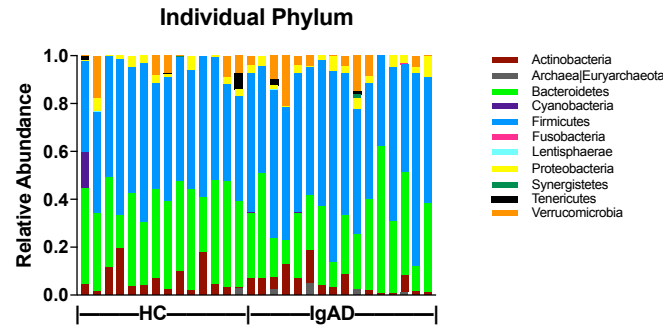
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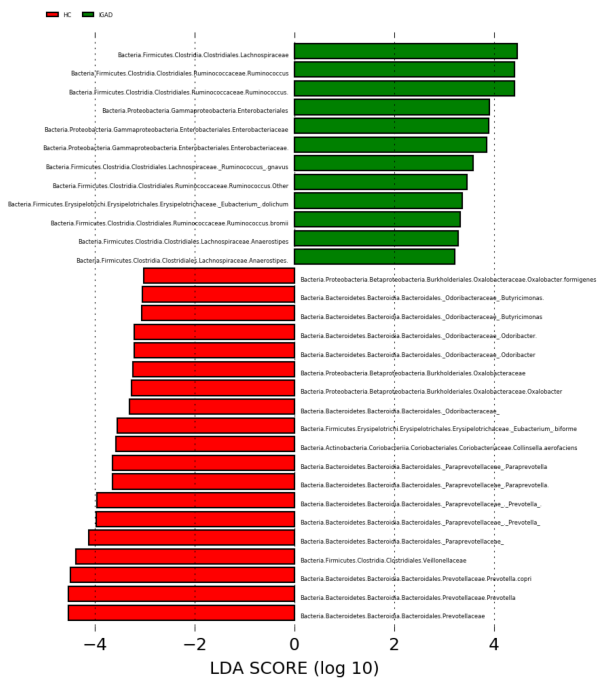
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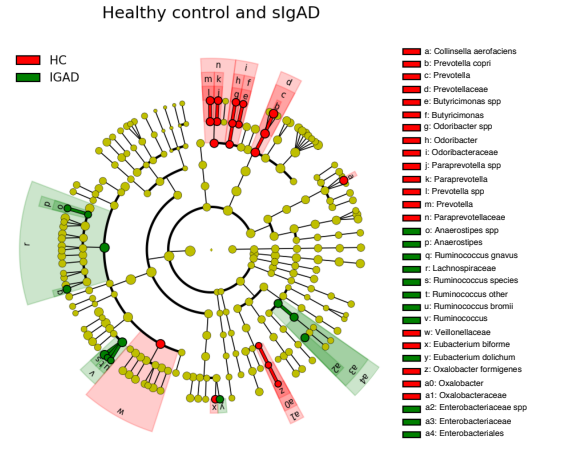
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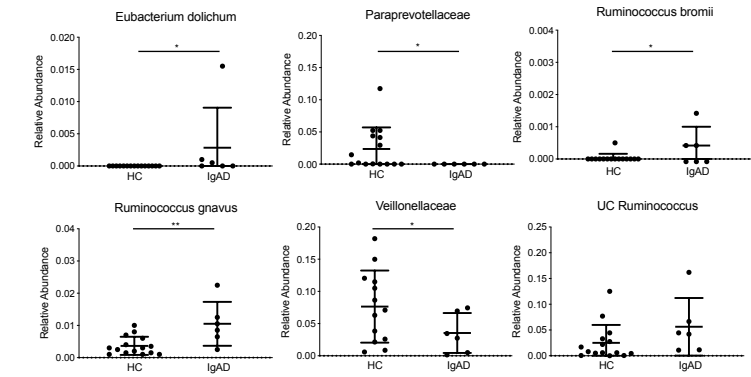
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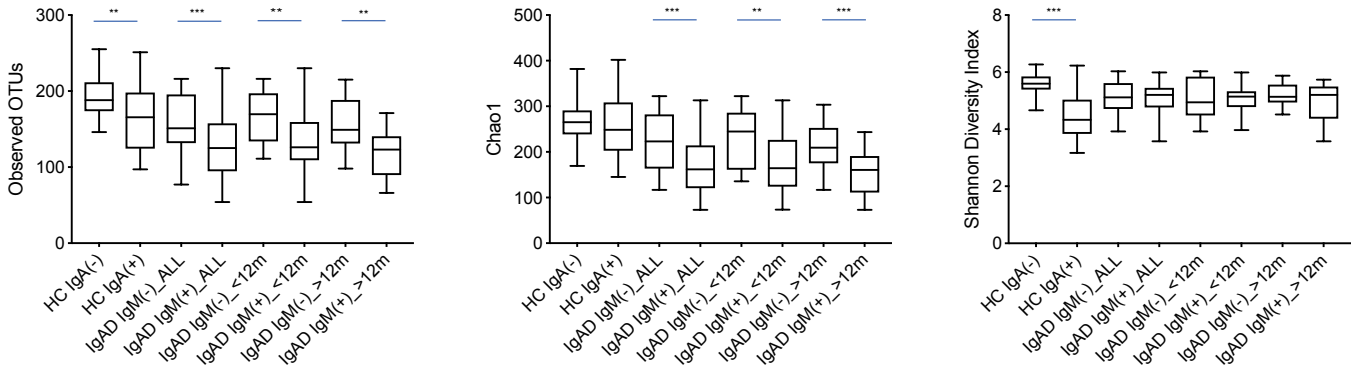
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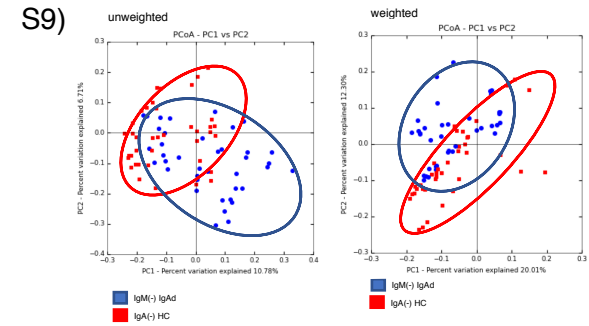
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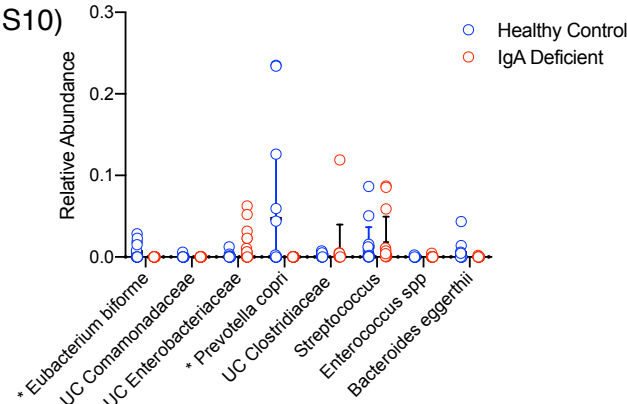
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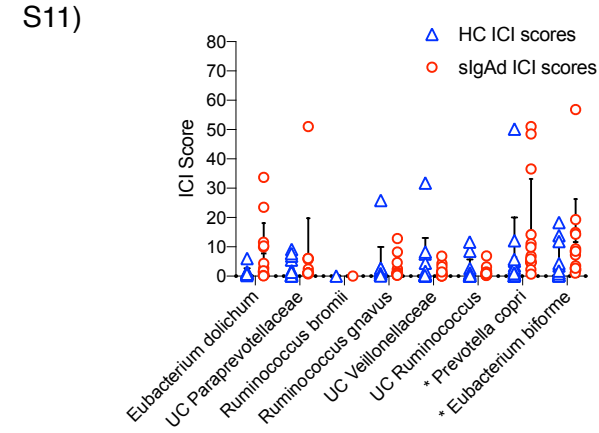
S9)



S10)



S11)



S12)

