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Title (English) DNA methylation correlation networks in overweight and normal-weight adolescents reveal differential coordination		
Title (Swedish)		
Abstract: Epigenetics involvement in obesity is largely unexplored. DNA methylation correlation networks were profiled from blood samples of obese and lean children. The analysis revealed major differences in the organization of the networks where the obese had less modularity compared to the lean, implying that biological pathways have a lower order of coordination between them in obese, in terms of DNA methylation. Analysis of highly connected genes i.e. hubs, in the two networks suggests that changes of the methylation pattern of the hubs cause the difference in coordination between pathways. Hubs which are highly connected, and thus biologically important, in one network had an intriguingly low connectivity in the other. The results suggest differential regulation of transcription through changes in the coordination of DNA methylation in obese and lean individuals. The findings are a major step toward understanding the role of DNA methylation in obesity and for providing potential biomarkers for diagnosing and the prediction of obesity.		
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