PROJECT SUMMARY (See instructions):

The project proposed here involves the evaluation of sperm DNA methylation patterns in healthy, fertile men of reproductive age (Aim 1) as well as changes in sperm DNA methylation in healthy, fertile men in response to age (Aim 2). While the potential for paternal transmission of epigenetic information through paternal gametes is increasingly being considered, the "normal" sperm methylome in healthy, fertile men with normal semen parameters has yet to be described. We will establish a reference sperm methylome by performing microarray DNA methylation analysis on sperm DNA from 10 healthy, fertile men using the Illumina HumanMethylation450 BeadChip, a chip that interrogates the methylation status of > 450,000 CpGs. Subsequent to obtaining these reference data, we will evaluate the sperm DNA methylation patterns in pairs of samples from men for whom we have sperm samples collected 12-21 years apart. This will allow us to directly evaluate the changes that occur to sperm DNA methylation as men age. This is critically important in assessing the potential consequences to offspring health that might arise as delayed fatherhood becomes an ever more frequent feature of modern populations.

RELEVANCE (See instructions):

Through this study we will generate a reference for normal sperm DNA methylation patterns, which will serve as a valuable resource for future microarray-based DNA methylation studies. Data generated in Aim 2 will be critical in understanding the potential consequences of delayed fatherhood by identifying age-related changes to sperm DNA methylation in a unique set of sperm samples.

PROJECT/PERFORMANCE SITE(S) (if additional space is needed, use Project/Performance Site Format Page)

Project/Performance Site Primary Location			
Organizational Name: University of Utah School of Medicine, Andrology and IVF Laboratories			
DUNS: D & B #009095365			
Street 1: 675 Arapeen Dr		Street 2: Suite 205	
City: Salt Lake City	County: Salt Lake		State: UT
Province:	Country: USA		Zip/Postal Code: 84108
Project/Performance Site Congressional Districts: Utah 2nd			

Additional Project/Performance Site Location			
Organizational Name:			
DUNS:			
Street 1:		Street 2:	
City:	County:		State:
Province:	Country:		Zip/Postal Code:
Project/Performance Site Congressional Districts:			