



Karen M. Berkowitz, M.D., is an Assistant Professor in the Departments of Obstetrics and Gynecology and Biochemistry and Molecular Biology at Drexel University College of Medicine. She is a graduate of Albert Einstein College of Medicine in New York where she was elected to the Alpha Omega Alpha National Honor Society. She completed her OB/GYN residency at Yale School of Medicine, followed by subspecialty training in Reproductive Endocrinology and Infertility at University of Pennsylvania School of Medicine. Her areas of clinical interest include infertility, in vitro fertilization, and polycystic ovary syndrome. Her research interests include mammalian germ cell development and meiosis. She is board certified in both General Obstetrics & Gynecology and Reproductive Endocrinology & Infertility.

<http://www.drexelmed.edu/Home/AboutOurFaculty/KarenBerkowitz.aspx>

Mary DeWitt Pettit, M.D., Fellowship Project - 2011

GENETIC DEFECTS ASSOCIATED WITH FEMALE INFERTILITY AND PREGNANCY LOSS

Defects in chromosome segregation during meiosis are known to contribute greatly to aneuploidy or abnormal chromosome number in offspring. Aneuploidy due to mis-segregation of chromosomes is a leading cause of birth defects and pregnancy loss, yet our understanding of how these occur is largely lacking, indicating the need for further studies. Using gene knockout technology, we recently demonstrated that CTF18, an evolutionarily conserved gene, plays critical roles in both female oocyte development and fertility in mice. Our findings suggest that CTF18 plays an important role in maintaining the early ovarian follicle pools in mammals, and it is well known that diminishing ovarian follicle numbers correlates with decreased fertility and premature menopause in women. We also showed that loss of function of CTF18 leads to chromosomal defects during meiosis, and death in almost half of CTF18-deficient embryos; these findings are consistent with aneuploidy as a cause of embryonic lethality. Our studies will provide insight into infertility and reproductive disorders in women, and ultimately lead to better treatments.