It is essential that the early mammalian embryo attaches to the uterus or implants to survive. Most embryonic mortality is associated with complications during this process resulting in a loss of 25-60% of embryos or pregnancies. To promote implantation, the embryo will release proinflammatory cytokines. Interleukin-1 beta (IL-1B) is a proinflammatory cytokine released by the human, rodent and pig embryo that is believed to be important for implantation. The gene encoding IL-1B has duplicated in the pig resulting in two distinct genes; IL-1B1 and a novel gene referred to as interleukin-1 beta 2 (IL-1B2). It’s believed that IL-1B2, rather than IL-1B1, is released by the early pig embryo, however, the function of IL-1B2 is unknown. To better understand the involvement of proinflammatory cytokines during implantation, we characterized IL-1B2’s activity within the pig endometrium. Based on experiments presented in this dissertation we conclude that pig embryos release IL-1B2 as early as Day 6 of development, IL-1B2 increases the activity and production of proteins within the endometrium that may be necessary for implantation and within the endometrium, IL-1B2 may have less activity when compared with IL-1B1. Overall, the early pig embryo releases a newly discovered IL-1 that likely creates a balanced proinflammatory environment within the endometrium to enhance implantation. Investigations of embryo implantation, with a special emphasis on IL-1 system, will increase our understanding of early pregnancy in humans and in animals used in production of food and biomedical research.