Participant Inclusion Criteria

Mothers who meet all of the following criteria will be eligible for this study:

1. Must be able to understand and provide informed consent
2. Pregnant women from 18 to 45 years of age with a singleton pregnancy with a non-anomalous, appropriately-grown fetus
3. Atopic disease (asthma, allergic rhinoconjunctivitis, or atopic dermatitis) or food allergy in a first-degree relative of the infant to-be-delivered (for exception, see exclusion criteria 6).

Infants who are medically stable (requiring no more than standard neonatal resuscitation including tactile stimulation, bulb suctioning, and drying) at the time of delivery are eligible for this study.

Participant Exclusion Criteria

Individuals who meet any of the following criteria are not eligible for this study:

For C-section mothers

1. In labor with evidence of cervical change prior to the scheduled C-section
2. Rupture of the amniotic sac
3. Vaginal pH > 4.5 on the day of delivery

For vaginal delivery mothers

- Use of induction agents for cervical ripening (cervical prostaglandin or Foley catheter)

For all mothers and their infants

1. Inability or unwillingness of a participant to give written informed consent or comply with study protocol
2. History of active atopic dermatitis within the past 5 years in the mother
3. Express no intention to breastfeed
4. History of diabetes mellitus or gestational diabetes mellitus
5. History of inflammatory bowel disease (IBD) (e.g., Crohn's disease or ulcerative colitis)
6. Evidence of an active STI (e.g., primary herpes or genital warts), or vaginal lesions consistent with herpes infection on the day of delivery
7. Evidence of prior or current hepatitis B or C infection as demonstrated by the presence of the hepatitis B surface antigen, antibody positivity against the hepatitis B core antigen, or antibody positivity against the hepatitis C virus. Assessment for hepatitis B and hepatitis C infection will be repeated for this study during the third trimester of pregnancy even if prior testing during the current pregnancy was negative.
8. Evidence of HIV infection (e.g., positive HIV serology or detectable viral load). Testing will be required during the third trimester of pregnancy, even if prior testing during the current pregnancy was negative.
9. Positive GBS test results by rectovaginal swab performed within 5 weeks of delivery, a prior infant with invasive GBS disease, or GBS bacteriuria at any point during pregnancy
10. Evidence of N. gonorrhoeae or C. trachomatis infection by testing performed within 5 weeks of delivery

11. Positive test for syphilis (both screening and confirmatory testing). Testing will be required during the third trimester of pregnancy, even if prior testing during the current pregnancy was negative.
12. History of antibiotic administration during the third trimester of the current pregnancy except for routine antibiotic administration given for the C-section procedure
13. Mothers with serious chronic conditions during pregnancy (e.g., systemic lupus erythematosus, history of organ transplant, etc.)
14. Mothers with complicated pregnancies including pre-eclampsia, chorioamnionitis, placenta previa, vasa previa, placental abruption, or active vaginal bleeding
15. Maternal fever on the day of delivery
16. Infants with complications during delivery, such that the infant requires more than the standard neonatal resuscitation after delivery
17. Infants delivered prior to 37 weeks of gestation
18. Thick particulate meconium noted upon delivery of the infant
19. Presence of a congenital abnormality in the infant for which study participation is not recommended
20. Current, diagnosed mental illness or current, diagnosed or self-reported drug or alcohol abuse in the mother that, in the opinion of the investigator, would interfere with the participant's ability to comply with study requirements
21. Use of investigational drugs during the third trimester of pregnancy
22. Past or current medical problems or findings from physical examination or laboratory testing that are not listed above, which, in the opinion of the investigator, may pose additional risks from participation in the study, may interfere with the participant's ability to comply with study requirements, or may impact the quality or interpretation of the data obtained from the study