



## ***Fetal Fibronectin: Assessing Risk of Pre-term Delivery***

### ***Overview***

Premature birth is the single largest cause of non-chromosomal perinatal mortality and morbidity. One in nine women experience preterm delivery. Others experience clinically similar symptoms but do not progress to preterm delivery. Fetal fibronectin, a substance normally present in amniotic fluid but not usually found in cervicovaginal fluid after 20 weeks gestation, is an independent predictor of risk for

preterm delivery. The detection of fetal fibronectin in asymptomatic women at 24 weeks gestation is associated with increased risk for preterm delivery.<sup>1-3</sup> In women with symptoms of early labor, a negative result for fetal fibronectin on a cervicovaginal specimen has a negative predictive value over 99% for delivery in less than 14 days.<sup>4,5</sup>

### ***Clinical Utility***

When used in conjunction with other clinical tests and patient data, fetal fibronectin has been FDA-approved to aid in assessing the risk of preterm delivery in both symptomatic and asymptomatic patients. It is not intended for use in patients with advanced cervical dilatation or ruptured amniotic membranes. The use of fetal fibronectin in assessing the viability of inducing labor is under investigation.<sup>6,7</sup>

- ?? Accurate diagnosis of preterm labor and management of preterm birth
- ?? High negative predictive value supports less intervention for patients negative for fetal fibronectin

Fetal fibronectin testing can reduce unnecessary hospitalization and treatment in symptomatic and asymptomatic pregnant women who are unlikely to deliver in ? 14 days.<sup>8</sup>

### ***Ordering Information & Specimen Requirements***

<b>Test Code</b>	<b>Test Name</b>	<b>Specimen Requirements</b>
<b>1440</b>	<b>Fetal Fibronectin</b>	Cervicovaginal swab; refrigerated Required collection kit (containing Dacron <sup>®</sup> swabs, transport tube with buffer, "fetal fibronectin" label and collection instructions) is available from <i>Specialty</i> .

### ***Methodology***

Fetal Fibronectin, enzyme immunoassay

### ***Related Tests***

*Specialty* has a comprehensive menu of assays related to pregnancy loss due to maternal or fetal infection, immune interactions, autoimmune diseases and thromboembolic complications.

## **Additional Collection Instructions**

Collection Instructions: During sterile speculum examination lightly rotate Dacron<sup>®</sup> swab across the cervical os or posterior fornix. Remove the swab and immerse Dacron<sup>®</sup> tip in buffer. Break the shaft of the swab even with the top of the tube. Align the shaft of the swab with the hole inside the tube cap and push the cap down tightly to seal the tube. Place the tube in the *Specialty* specimen bag and apply the bright yellow “fetal fibronectin” sticker to the outside of the bag. Ship refrigerated on cold pack.

### **NOTES:**

- ?? Obtain specimen **prior** to digital examination.
- ?? Do not contaminate the swab or cervicovaginal secretions with lubricants, soaps, or disinfectants (e.g., K-Y Jelly, Betadine, hexachlorophene).
- ?? Cotton swabs absorb the fetal fibronectin and are not acceptable for this assay.

### **References**

1. Garite TJ, Lockwood CH. A new test for diagnosis and prediction of preterm delivery. *Contemp Ob Gyn* 1996;41:77-93.
2. Goldenberg RL, Iams JD, Mercer BM, et al. The preterm prediction study: the value of new vs. standard risk factors in predicting early and all spontaneous preterm births. *Am J Public Health* 1998;88:233-8.
3. Wennerholm UB, Holm B, Mattsby-Baltzer I, et al. Fetal fibronectin, endotoxin, bacterial vaginosis and cervical length as predictors of preterm birth and neonatal morbidity in twin pregnancies. *Br J Obstet Gynaecol* 1997;104:1398-404.
4. Peaceman AM, Andrews WW, Thorp JM, et al. Fetal fibronectin as a predictor of preterm birth in patients with symptoms: a multicenter trial. *Am J Obstet Gynecol* 1997;177:13-8.
5. Ascarelli MH, Morrison JC. Use of fetal fibronectin in clinical practice. *Obstet Gynecol Surv* 1997;52 (Suppl 4):S1-12.
6. Ahner R, Egarter C, Kiss H, et al. Fetal fibronectin as a selection criterion for induction of term labor. *Am J Obstet Gynecol* 1995;173:1513-7.
7. Garite TJ, Casal D, Garcia-Alonso A, et al. Fetal fibronectin: a new tool for the prediction of successful induction of labor. *Am J Obstet Gynecol* 1996;175:1516-21.
8. Joffe G, Jacques D, Burton B, et al. Impact of fetal fibronectin assay on admissions for preterm labor [abstract]. *Am J Obstet Gynecol* 1998;178:11.