Actim[®] Partus

A unique bedside test for ruling out the risk of preterm or imminent delivery.

• Actim[®] Partus is a highly specific rapid test used to identify patients at risk of preterm delivery from week 22 onwards.

• Test results are available at the bedside in just 5 minutes.

• Semen and other common contaminants do not interfere with the test results.

No interference with semen or lubricants, urine, vaginal medications, bathing products or infections.

Actim Partus is a **one-step** dipstick test that gives **results in just 5 minutes** with sampling completed in seconds.

The test can be used **from week 22 onwards** when fetal membranes are intact.

> Most people remain sexually active during pregnancy, and because **intercourse and semen do not interfere** with the test results, there is no need to rule out these patients.

The test results **are not affected** by vaginal medicatons, infections, or various other contaminants.

Cervical phlGFBP-1: a key predictor of preterm delivery

Actim Partus rapid test is based on unique and highly specific monoclonal antibodies that bind to the phosphorylated form of insulin-like growth factor binding protein-1 (phIGFBP-1). phIGFBP-1 is produced in the decidua, and it leaks into the cervix when the decidua and chorion detach.

A positive Actim Partus test result indicates the presence of tissue damage, which may lead to preterm delivery. A negative test result, in turn, means that there are no significant changes in the choriodecidual layer. Delivery is therefore very unlikely to happen within the next 1–2 week(s), even if the patient has contractions.



Figure 1. Actim Partus identifies the risk of preterm delivery (PTD) through a simple cervical swab sample.

Preterm delivery or Braxton-Hicks contractions?

Half of pregnant people experience symptoms, yet only 20% of these are at real risk of imminent or preterm delivery. Distinguishing between true preterm labor and false labor pains can be challenging. Actim Partus has been developed to help clinicians make a timely diagnosis at the patient's bedside.



A positive Actim Partus test result means the following:

- A phlGFBP-1 concentration of 10 µg/l or more in the collected specimen, which indicates the presence of significant tissue damage.
- The patient is at a high risk of PTD and should be evaluated for treatment aiming at delaying the delivery or preparing the baby for delivery.
- Early identification of patients at real risk of preterm delivery allows timely interventions.

That way, patients with false labor pains can be kept in a triage area for observation or discharged while patients with true preterm labor contractions can be referred on to the next staging area as rapidly as possible. This saves time and valuable resources for both the birth-giver and the hospital.

A negative Actim Partus test result means the following:

- A phlGFBP-1 concentration of 10 µg/l or less in the collected specimen, which indicates the absence of significant tissue damage.
- The patient can be discharged and return home, unless otherwise clinically indicated, as the delivery is highly unlikely to happen within the next 1-2 week(s).
- Unnecessary treatments with potential side effects can be avoided, the pregnant patient is given peace of mind, and hospital resources are saved.

Actim Partus rules out false alarms

Clinical evidence from multiple studies shows that Actim Partus has a very high negative predictive value (NPV), and is therefore a reliable tool to rule out the risk of imminent or preterm delivery. Its high sensitivity, in turn, makes it effective in predicting preterm or imminent delivery.

Because Actim Partus is specific to phIGFBP-1, the test can be completed even in the presence of semen or other common contaminants such as urine, infections or medical products in the collected specimen.

Reference	n	GA (wk)	End point	Sensitivity	Specificity	PPV	NPV
Tripathi et al., 2016	468	28–36	7 d	95 %	92 %	86 %	97 %
Azlin et al., 2010	51	24–36	7 d	80 %	94 %	57 %	98 %
Brik Spinelli et al., 2010	276	24–34	7 d	73 %	66 %	22 %	95 %
Tanir et al., 2009	68	24–37	7 d	93 %	79 %	56 %	98 %
			14 d	61 %	80 %	68 %	74 %
Eroglu et al., 2007	51	24–35	7 d	83 %	84 %	42 %	97 %
Ting et al., 2007	94	24-34	7d	69 %	78 %	39 %	92 %
			14 d	72 %	80 %	46 %	92 %
Lembet et al., 2002	36	20–36	7 d	94 %	85 %	83 %	94 %

 Table 1. Clinical evidence of Actim Partus as a predictor of imminent delivery.

 Table 2. Clinical evidence of Actim Partus as a predictor of preterm delivery before week 32–37.

Reference	n	GA (wk)	End-point	Sensitivity	Specificity	PPV	NPV
Tripathi et al., 2016	468	28–36	< 37 weeks	81 %	97 %	95 %	88 %
			< 34 weeks	94 %	89 %	78 %	97 %
Riboni et al. 2011	210	24-34	< 34 weeks	64 %	86 %	24 %	97 %
Brik Spinelli et al., 2010	276	24–34	< 32 weeks	76 %	66 %	18 %	96 %
Tanir et al., 2009	68	24–37	< 34 weeks	70 %	75 %	48 %	89 %
Eroglu et al., 2007	51	24–35	< 35 weeks	70 %	88 %	58 %	92 %
Akercan et al., 2004	45	24–36	< 37 weeks	78 %	87 %	73 %	90 %
Lembet et al., 2002	36	20–36	< 37 weeks	90 %	94 %	94%	89 %

Test results available at the bedside in just 5 minutes











- 1. Collect the specimen with a speculum.
- 2. Extract the specimen.
- 3. & 4. Activate the test.
- 5. Interpret the test result.

Ordering information

Product	Product code
Actim Partus, 10 tests	31931ETAC
Actim Partus, 1 test	31930ETAC
Actim Partus Controls	31900ETAC

The test kit contains all the materials needed - no extra laboratory equipment is required to perform the test.

The test kit can be stored at room temperature.



Actim Oy

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Selected references

- Akercan F et al. Value of cervical phosphorylated insulinlike growth factor binding protein-1 in the prediction of preterm labor. J Reprod Med (2004) 49: 368-372.
- 2. Altinkaya O et al. Cervical phosphorylated insulin-like growth factor binding protein-1 in prediction of preterm delivery. Arch Gynecol Obstet. (2009) 279:279-283.
- Azlin MI et al. Role of phIGFBP-1 and ultrasound cervical length in predicting pre-term labour. Journal of Obstetrics and Gynaecology (2010) 30:456–460.
- Brik Spinelli M et al. Phosphorylated insulin-like growth factor binding protein-1 and cervical measurement in women with threatening preterm birth. Acta Obstet Gynecol Scand (2010) 89:268–74.
- Chen MX, Dansereau J, Hoag GN. Comparison of Fetal Fibronectin and Phosphorylated Insulin-Like Growth Factor Binding Protein-1 Testing to Predict Preterm Delivery in Symptomatic Women: A 10-Year Retrospective Study. Obstet Gynaecol Can. (2020) 42:971-976.
- Eroglu D et al. Prediction of preterm delivery among women with threatened preterm labor. Gynecol Obstet Invest (2007) 64:109-116.
- Kekki M et al. Insulin-like growth factor-binding protein-1 in cervical secretion as a predictor of preterm delivery. Acta Obstet Gynecol Scand (2001) 80:546-551.

- Lembet A et al. New rapid bed-side test to predict preterm delivery: phosphorylated insulin-like growth factor binding protein-1 in cervical secretions. Acta Obstet Gynecol Scand (2002) 81:706–712.
- Riboni F et al. Biochemical markers predicting pre-term delivery in symptomatic patients: phosphorylated insulin-like growth factor binding protein-1 and fetal fibronectin. Arch Gynecol Obstet. (2011) 284:1325-9.
- 10. Rutanen EM Insulin-like growth factors in obstetrics. Opin Obstet Gynecol (2000) 12:163-168.
- Tanir HM, Sener T, Yildiz Z. Cervical phosphorylated insulin-like growth factor binding protein-1 for the prediction of preterm delivery in symptomatic cases with intact membranes. J Obstet Gynaecol Res (2009) 1:66–72.
- Ting HS et al. Comparison of bedside test kits for prediction of preterm delivery: phosphorylated insulin-like growth factor binding protein-1 (pIGFBP-1) test and fetal fibronectin test. Ann Acad Med Singapore (2007) 36:399-402.
- 13. Tripathi R et al. Comparison of rapid bedside tests for phosphorylated insulin-like growth factor-binding protein 1 and fetal fibronectin to predict preterm birth. Int J Gynaecol Obstet. (2016) 135:47-50. Epub 2016 Jun 18.
- World Health Organization: Media Center. Fact Sheets: Preterm Birth. Updated 11/2015. Available in: http://www.who.int/mediacentre/ factsheets/fs363/en/ (accessed 09/2016).

The full reference list can be found on our website.