

PLGF-Prospekt-Plad.tm 16.02.2009 10:58 Uhr Seite 1

Preeklampsia PLGF

(Human Placenta
Growth Factor)

DRG

PLGF
Freies Estriol
HCG
Freies beta-HCG
AFP
PAPP-A
HPL



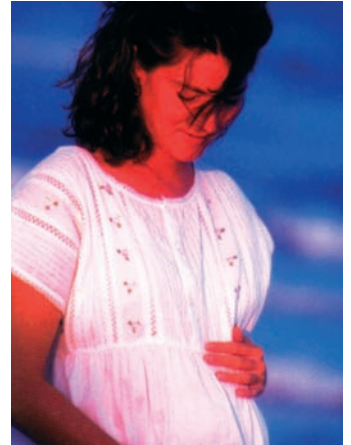
DRG

DRG ELISA

Schwangerschaftsüberwachung Prenatal Monitoring

PLGF

Human Placenta Growth Factor



Der neue Marker für Präeklampsie

Bei 5-8 Prozent aller Schwangeren kommt es - meist im letzten Drittel der Schwangerschaft - zu einem Anstieg des Blutdrucks, zur Proteinausscheidung und zu Ödemen.

Dieser als Präeklampsie bezeichnete Zustand stellt eine Gefahr für Mutter und Kind dar und kann das Einleiten einer vorzeitigen Geburt erforderlich machen.

Studien über Präeklampsie haben gezeigt, dass wichtige Wachstumsfaktoren beeinflusst werden. Dies hat eine Mangelversorgung von Plazenta und Fötus zur Folge.

Heute kann man die Konzentration eines der betroffenen Wachstumsfaktoren, PLGF, im Blut bestimmen.

Der PLGF Elisa ermöglicht die frühzeitige Risikerkennung einer Präeklampsie (**ab 15. SSW**) und ist somit ein wichtiges neues Werkzeug, um die Gesundheit von Mutter und Kind zu sichern.

A New Marker for Preeclampsia

In 5-8 percent of all pregnancies, Preeclampsia causes an increase in the mother's blood pressure, excretion of protein, and edemas – in the majority of cases, this occurs in the last trimester of pregnancy.

These clinical conditions, together termed Preeclampsia, are a risk for mother and child which can make it necessary to induce premature birth.

Studies about Preeclampsia have shown that important growth factors are affected. This causes malnutrition of placenta and fetus.

It is now possible to measure the concentration of one of the growth factors involved – PLGF – in blood.

*The PLGF ELISA allows the early detection (**15th week of pregnancy**) of the developmental risk factors of preeclampsia and is therefore an important new tool in the health protection of mother and child.*



PLGF Elisa EIA-4529

Inkubationszeit/Incubation time: 2,5 Stunden
 Standardbereich/Standard range: 0-1000 pg/mL
 Probe/Sample: 25 µL Serum
 Empfindlichkeit/Sensitivity: 1,06 pg/mL
 Reagenzien sind gebrauchsfertig/Ready to use reagents
 Kitinterne Kontrollen/Internal kit controls

Assay characteristics

CV Intra assay: 2,83 % - 5,68 %
 CV Inter assay: 4,10 % - 7,00 %
 Recovery: 87,0 % - 105,5 %
 Linearity: 88,1 % - 112,6 %

Angiogenic factors in normal and preeclamptic pregnancies

Schmidt M¹, Hoffmann B¹, Callies R¹, Janetzko A², Kimmig R¹, Kasimir-Bauer S¹

¹Department of Gynecology and Obstetrics, University of Essen, Germany and ²DRG Instruments GmbH, Marburg, Germany

Background:

Angiogenesis and vascular transformation are important processes in the normal development of the placenta. Abnormal angiogenesis and vascular transformation are considered to be one of the main reasons for preeclamptic pregnancies and intrauterine growth retardation. Placental growth factor (PLGF), a member of the VEGF family, is produced chiefly by the placenta and is a potent angiogenic factor. The availability of a test to predict preeclampsia would be a powerful tool in preventing preeclampsia-induced risks for the mother and fetus. Now, a new PLGF-ELISA kit for routine diagnostics is available, which offers new possibilities in the prediction of preeclampsia.

Materials and methods:

Using solid phase enzyme-linked immunosorbent assay (ELISA) longitudinal serum concentrations of PLGF (DRG Instruments, Marburg, Germany) were measured in normal pregnancies. The values were compared to those of preeclamptic pregnancies.

Results:

The PLGF concentration in the normal pregnancies showed a steady increase with a peak at 28 to 32 weeks and a consistent decline thereafter. The preeclamptic pregnancies showed a significant lower serum concentration of PLGF compared to the non-preeclamptic pregnancies ($p < 0,05$). There was just a slight peak later in pregnancy.

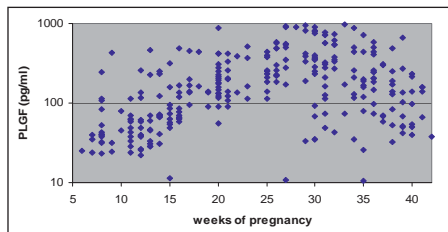


Figure 1: PLGF expression in normal pregnancies in the course of pregnancy

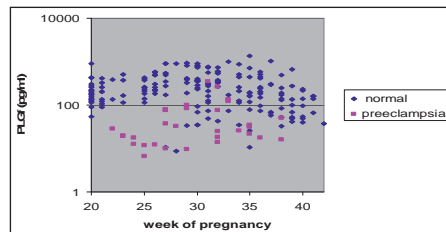


Figure 2: PLGF expression in normal and preeclamptic pregnancies (> 20 weeks)

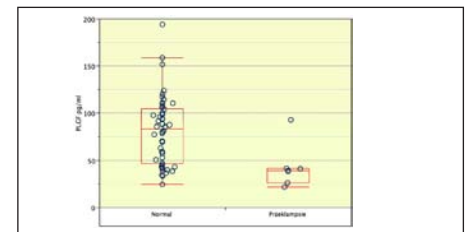


Figure 3: PLGF at 15 to 18 weeks (Schmidt M et al, Gyn Geb Rundschr 2008, in press)

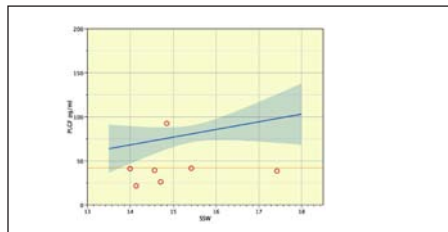


Figure 4: PLGF in preeclamptic pregnancies

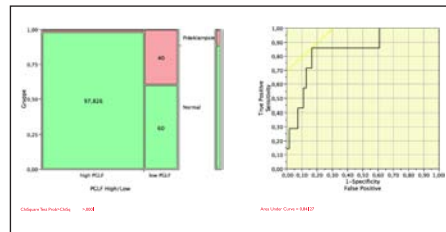


Figure 5: PLGF Cutoff 41,84 pg/mL
Relative risk: 18,4 (95 % CI: 2,40-140,83)
Odds ratio: 30 (95 % CI: 3,21-280,31)

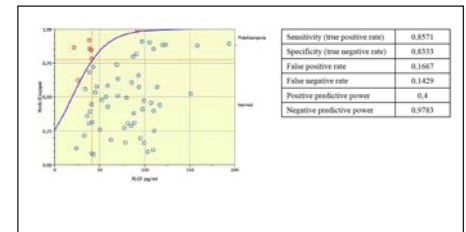


Figure 6: PLGF and probability of preeclampsia

Conclusion:

PLGF differs in normal and preeclamptic pregnancies. The PLGF expression in normal pregnancies shows a steady

increase from the end of the first trimester until the beginning of the third trimester with a decline thereafter.

DRG PLGF-ELISA

- All the measured assay characteristics fulfilled the required specifications
- The assay can be considered reliable
- Comfortable using
 - Kit supplies „ready to use reagents“
 - Short incubation period (2.5h)
 - Attractive price

Results

- PLGF expression showed a steady increase beginning at 15 weeks
- PLGF expression is significantly lower in preeclamptic pregnancies
- ASS has a protective effect starting < 18 weeks

PLGF as a useful marker?

Yes: PLGF expression in early pregnancy is lower in pregnancies with developing preeclampsia

- Helps to identify high risk patients:
- 15-18 weeks: < 42 pg/mL
- Aspirin therapy in early stage of pregnancy could be a strategy to reduce the risk of preeclampsia

Labordiagnostik für die Gynäkologie Gynecologic Endocrinology

ELISAS Hormones

Androstendione
Estradiol
Estrone
DHEA
DHEA-S
Progesterone
17 alpha-OH Progesterone
SHBG
Testosterone
Dihydrotestosterone (DHT)
Free Testosterone
Prolactin, FSH, LH

ELISAS Tumor Marker

CA 125 Afamin
CA 15-3 LI-CAM
CA 19.9 beta-HCG
CEA PSA/Free PSA
TPA Crypto-I
TPS NSE
CA 72-4 UBC
SCC AFP
SI00
Cyfra 21-I
Chromogranin A

ELISAS Prenatal Monitoring

PLGF
Free Estriol
HCG
Free beta-HCG
AFP
PAPP-A
HPL



DRG Diagnostics

DRG Instruments GmbH, mit Sitz in Marburg, wurde im Jahre 1973 als Niederlassung von DRG International, Inc. USA gegründet. Heute widmet sich die Firma hauptsächlich der Entwicklung, Produktion und dem weltweiten Vertrieb von neuen und innovativen ELISA Testsystemen. Die DRG ist nach ISO 9001 und ISO 13485 zertifiziert.

ELISAS that perform

DRG entwickelt, produziert und vertreibt diagnostische ELISA Testkits für den Gebrauch in Klinik und Forschung. Die Erfahrung unseres Produktions- und Managementteams garantiert hochqualitative Produkte mit einem guten Preis-Leistungs-Verhältnis und einem exzellenten Kundenservice. DRG Kits bieten beste Qualität, hervorragende Performance und Reproduzierbarkeit sowie einfache Handhabung: Mikrotiterstrips einzeln brechbar, gebrauchsfertige Reagenzien, kurze Inkubationszeiten und lange Haltbarkeit. Unsere ELISA Kits sind erhältlich in verschiedenen Formaten und damit anpassungsfähig an die Bedürfnisse des Kunden und der Märkte.

DRG Diagnostics

DRG Instruments GmbH, founded in 1973 by Dr. Geacintov, subsidiary of DRG Intl. Inc., USA, is a diagnostics manufacturer of ELISAS. The DRG Group operates through a network of DRG subsidiaries in Germany, Poland, Russia and the Czech Republic and through distributors worldwide.

ELISAS that perform

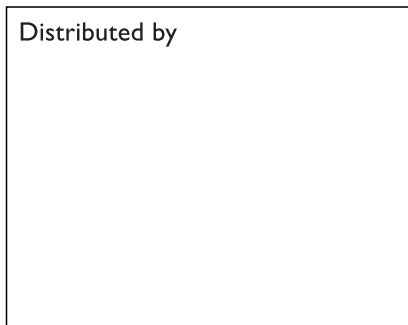
DRG develops and manufactures diagnostic ELISA test kits for use in clinical and research laboratories. The experience of our production and management team guarantees to provide high quality products, competitive prices and excellent customer service.

DRG works to DIN EN ISO 9001:2000, ISO 13485:2007 and ISO 13485:2003 under CMDCAS standard, certified by TÜV Rheinland Product Safety GmbH, an indication of our commitment to customer service, quality control and improved health care.



DRG Instruments GmbH, Germany
Frauenbergstraße 18
D-35039 Marburg
Tel. +49 (0) 64 21/170 00,
Fax +49 (0) 64 21/1700 50
Internet: www.drg-diagnostics.de
E-mail: drg@drg-diagnostics.de

Distributed by



DRG International Inc. USA
1167 U.S. Highway 22 East
Mountainside, N.J. 07092 USA
Phone: +1 (908) 233-2079
Fax +1 (908) 233-0758
Internet: www.drg-international.com
E-mail: corp@drg-international.com