



ADVY

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Pregnancy Associated
Plasma Protein A
(PAPP-A) Antigen

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Product Code: 00-AGN-AP-PPA-001

DESCRIPTION

PAPP-A, which was first isolated in human pregnancy serum, belongs to the metzincin superfamily of metalloproteinases. PAPP-A circulates in pregnancy as a heterotetrameric disulfide-bound 2:2 complex composed of two 200 kDa PAPP-A subunits and two 50-90 kDa proform of eosinophil major basic protein (pro-MBP) subunits, denoted as PAPP-A/proMBP (~500kDa). Both PAPP-A and proMBP are synthesized in the placenta during pregnancy. Serum PAPP-A concentration increases exponentially throughout pregnancy until delivery and attains maximum levels at term. Heterotetrameric PAPP-A is highly efficient as a serum marker in first-trimester screening for Down's syndrome (trisomy 21) and other fetal aneuploidies since low maternal serum levels have been associated with them. There is mounting evidence that low PAPP-A levels in the first trimester are also linked to adverse pregnancy outcomes such as preterm delivery, intrauterine growth retardation, preeclampsia, and stillbirth. Homodimeric PAPP-A also exists in serum, which circulates as a homodimer, not in complex with pro-MBP and associated with acute coronary syndrome (ACS) and other cardiac conditions.

APPLICATIONS

- It can be used as a control or calibrators for manufacturing various in-vitro test kits.
- Immunoassays
- Lateral flow assays

PRODUCT SPECIFICATIONS

Test Parameters	Acceptance Criteria
Physical Appearance	Colorless liquid
PAPP-A Concentration	≥ 0.5 mg/ml by DRG ELISA, ≥ 100000 mIU/L by Auto Delfia Assay
Total Protein Concentration	Batch specific
Purity	≥ 95% by SDS-PAGE
SDS PAGE	Single band corresponding to Mol. Wt. of 200 KD
Buffer	Tris-10mM at pH 7.4 ± 0.2 containing NaCl-150mM, NaN ₃ 0.09% and 0.1% NGME
Anti-HIV 1&2	Negative (ELISA Assay)
Anti HCV	Negative (ELISA Assay)
HBsAg Antigen	Negative (ELISA Assay)
HBV DNA	Not Detected (PCR Analysis)
HIV DNA	Not Detected (PCR Analysis)
HCV RNA	Not Detected (PCR Analysis)
Storage Condition	-20° C
Shelf life	2 years

REFERENCES

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- Fialova, L., and I. M. Malbohan. "Pregnancy-associated plasma protein A (PAPP-A): theoretical and clinical aspects." *Bratislavské lekárske listy* 103, no. 6 (2002): 194-205.
- Kirkegaard, Ida, Niels Uldbjerg, and Claus Oxvig. "Biology of pregnancy-associated plasma protein-A in relation to prenatal diagnostics: an overview." *Acta obstetrica et gynecologica Scandinavica* 89, no. 9 (2010): 1118-1125.

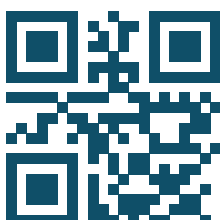
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