

# PLACENTA

## IDENTIFICATION AND CHARACTERIZATION OF A CDNA WITH DIFFERENTIAL EXPRESSION IN HUMAN TROPHOBLAST CELLS

B. Huelseweh, G. Huch, H.-P. Hohn and H.-W. Denker,  
Institut für Anatomie, Universität-GH Essen, Essen, Germany

Molecular mechanisms controlling human trophoblast invasiveness and proliferation are still poorly understood. By differential-display RT-PCR we recently identified a new cDNA, which might be involved in these two cellular processes. The cDNA, PBK1, was cloned from a first trimester placenta cDNA library. The deduced amino acid sequence of PBK1 shows neither homology to any known protein in the data bank nor to any protein motif known so far. Differential expression was verified by *in situ* hybridization. PBK1 expression was found in first trimester placentae in the proximal parts of cell islands and in closely adjacent villous cytotrophoblast, suggesting that the cDNA might be either involved in proliferation or invasion. PBK1 is also expressed in human choriocarcinoma cells. Its expression could be modified by differentiation modulating agents, i.e. dibutyrylcAMP, methotrexat, retinoic acid and phorbol-diester. Furthermore, Northern blot analysis and RT-PCR confirmed the existence of a mouse homologue in tissues like intestine, heart, lung, kidney, brain, spleen and uterus. In order to obtain first information on potential *in vivo* functions of the gene product we raised antibodies against two PBK1 peptides and started immunohistochemical studies.

W.B. SAUNDERS  
COMPANY LTD

London

Philadelphia

Sydney

Tokyo

Toronto

ISSN: 0143-4004