



## Protein Profiling of Microdissected Pancreas Carcinoma

### Protein Profiling of Microdissected Pancreas Carcinoma and Identification of HSP27 as a Potential Serum Marker

(*Clinical Chemistry*. 2007;53:629-635.)

**Authors:** Christian Melle<sup>1</sup>, Günther Ernst<sup>1</sup>, Niko Escher<sup>1</sup>, Daniel Hartmann<sup>2</sup>, Bettina Schimmel<sup>1</sup>, Annett Bleul<sup>1</sup>, Heike Thieme<sup>1</sup>, Roland Kaufmann<sup>3</sup>, Klaus Felix<sup>2</sup>, Helmut M. Friess<sup>2</sup>, Utz Settmacher<sup>3</sup>, Merten Hommann<sup>3</sup>, Konrad K. Richter<sup>3</sup>, Wolfgang Daffner<sup>3</sup>, Horst Täubig<sup>4</sup>, Thomas Manger<sup>4</sup>, Uwe Claussen<sup>1</sup> and Ferdinand von Eggeling<sup>1,a</sup>

1 Core Unit Chip Application, Institute of Human Genetics and Anthropology, Medical Faculty at the Friedrich Schiller University Jena, Jena, Germany.

2 Department of General Surgery, University of Heidelberg, Heidelberg, Germany.

3 Department of General, Visceral and Vascular Surgery, Medical Faculty at the Friedrich Schiller University Jena, Jena, Germany.

4 SRH Wald-Klinikum Gera, Department of General and Visceral Surgery, Gera, Germany.

**Background:** Patients with pancreatic adenocarcinomas have a poor prognosis because of late clinical manifestation and the tumor's aggressive nature. We used proteomic techniques to search for markers of pancreatic carcinoma.

**Methods:** We performed protein profiling of microdissected cryostat sections of 9 pancreatic adenocarcinomas and 10 healthy pancreatic tissue samples using ProteinChip technology (surface-enhanced laser desorption/ionization). We identified proteins by use of 2-dimensional gel electrophoresis, peptide fingerprint mapping, and immunodepletion and used immunohistochemistry for in situ localization of the proteins found. We used ELISA to quantify these proteins in preoperative serum samples from 35 patients with pancreatic cancer and 37 healthy individuals.

**Results:** From among the differentially expressed signals that were detected by ProteinChip technology, we identified 2 proteins, DJ-1 and heat shock protein 27 (HSP27). We then detected HSP27 in sera of patients by use of ELISA, indicating a sensitivity of 100% and a specificity of 84% for the recognition of pancreatic cancer.

**Conclusions:** The detection of DJ-1 and HSP27 in pure defined tissue and the retrieval of HSP27 in serum by antibody-based methods identifies a potential marker for pancreatic cancer.

[See original Abstract](#)



---

***RESprotect***  
Prevention of Chemoresistance

---

[Download full Paper](#)