





# Participant Profile

for the  
**Turkish-German Strategy Workshop 2006**  
**TÜBİTAK Marmara Research Center,**  
**Istanbul- Gebze Turkey**  
**13 – 15 December 2006**



International Bureau (IB)  
of the Federal Ministry of  
Education and Research  
(BMBF)

**Expertise,  
technologies and  
infrastructures  
available in your  
institution:**

**Research activities / expertise:** Mammary tumorigenesis; Metastasis;  
Oncogenic functions of mutant p53; Phsyiological activities of wild type p53

**Methods:** Molecular, biochemical and cell biology methods, ChIP, histological  
analyses, proteomics, FACS, live confocal microscopy

**Key technologies:** Gene expression analysis, histological methods, Transgenic  
animals, Proteomics, chromatin immunoprecipitation (ChIP), (live) confocal  
microscopy, FISH

**Infrastructures:** Transgenic animal laboratory, histology, proteomics, live  
confocal microscopy, FACS...

**Key publications:**

1. Speidel et al. *Oncogene* **25**, 940-953 (2006).
2. Kapic et al. *Cell Death Differ.* **13**, 324-334 (2006).
3. Walter et al. *J. Biol. Chem.* **280**: 42497-42507 (2005).
4. Rohaly et al. *Cell* **122**, 21-32 (2005).
5. Goehler et al. *Nucl. Acid Res.* **33**, 1087-1100 (2005).
6. Wagner, et al. *Genes & Dev.* **15**, 286-293 (2001).
7. Schulze-Garg et al. *Oncogene* **19**, 1028-1037 (2000).
8. Janus et al. *Mol. Cell Biol.* **19**, 2155-2168 (1999).
9. Will et al. *Proc. Natl. Acad. Sci. USA* **95**, 13681-13686 (1998).
10. Mummenbrauer et al. *Cell* **85**, 1089-1099 (1996).

## 2. Past and present research collaborations

**Are you familiar  
with the European  
Framework  
Programme?**

**Yes**  **No**

with Framework Programme 5  
 with Framework Programme 6  
 with Framework Programme 7

**EU-projects you are  
involved in:**  
**Past projects**

**Present projects**

**Programme title / contract number / title / acronym / your function  
(coordinator / partner / contractor)**  
**Quality of Life and Management of Living Resources**  
**QLG1-1999-00273 / Mutant p53 Gain of Function Activities as Determinants  
for Tumor Prognosis and Therapy / Mutant p53 in Cancer / Coordinator**

1. **Life Sciences, Genomics and Biotechnology for Health**  
**LSHC-2004-502983 / Mutant p53 as Target for Improved Cancer  
Treatment / mutant p53 / contractor**
2. **Integrating and Strengthening the European Research Area**  
**LSHC-2004-503576 / Manipulating Tumor Suppression: a Key to  
Improve Cancer Treatment / Active p53 / Contractor**
3. **Specific Targeted Research or Innovation Project**  
**LSHC-CT-2005-018911 / Molecular Signatures as Diagnostic and  
Therapeutic Targets for Disseminated Epithelial Malignancies /  
Dismal / Contractor**

**Other international  
collaborations:**



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**Name(s) and  
contact details of  
potential partners:**

**If you would like to suggest the participation of particular partners from the partner country based on existing contacts or collaboration experience, you are welcome to indicate their names and contact details below:**

Prof. Dr. Mehmet Öztürk,  
Department of Molecular Biology and Genetics, Faculty of Science,  
Bilkent University  
06533, Ankara, Turkey  
Phone: +90-312- 266 50 81  
Fax: +90-312 -266 50 97  
e-mail: ozturk@fen.bilkent.edu.tr



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### 3. Presentation at the Workshop

I will give a presentation at the workshop (approx. 10 min.) to present my institution, my expertise, and my collaboration interests. The contents of my presentations is summarised below (max. 1 page).

#### ANALYSIS OF THE POSTTRANSLATIONAL MODIFICATIONS OF THE TUMOR SUPPRESSOR P53 BY 2D GEL ELECTROPHORESIS AND MASS SPECTOMETRY

Annette März, Jochen Heukeshoven, Cagatay Günes, Genrich V. Tolstonog, **Wolfgang Deppert**  
Heinrich-Pette-Institute, Martinistrasse 52, 20251 Hamburg, Germany

2D gel electrophoresis is widely used for the analysis of charge isomers of proteins that are generated by diverse posttranslational modifications. Employing this technique to p53 we demonstrated that on 2D gels human recombinant baculovirus-expressed p53 focuses in about 30 spots in the pH range of 5.5 – 6.7. Surprisingly, re-electrophoresis of p53 isolated from each individual spot resulted in at least 4 spots deviating in pI value from the original one, questioning that individual p53 spots in 2D-gels reflected charge isomers. These observations were further supported by 2D gel analysis of chromatographic fractions obtained after reversed phase HPLC of non-alkylated and iodoacetamide-alkylated p53. In 2D gels, p53 from each chromatographic fraction was again distributed over the whole pH range of 5.5 - 6.7. From these experiments we concluded that the apparent charge heterogeneity of p53 is not due to posttranslational modifications but rather reflects different structural properties of the p53 molecules. Most likely the hydrophobic core domain of p53 remains partially folded even after denaturation with 8M urea/thiourea, leading to the separation of folding isomers of p53 on 2D gels. Further analysis of all spots by MALDI-ToF mass spectrometry revealed that only a very minor fraction of the p53 molecules carried posttranslational modifications. In addition, these modifications reflected only few of the known p53 modifications identified in mammalian cells. We conclude that recombinant baculovirus-expressed p53 significantly differs from p53 expressed in mammalian cells with regard to posttranslational modifications. Our findings are important for the identification and quantification of posttranslational modifications of recombinant as well as of native p53 using a proteomic approach.

**I agree with the publication of my data on the Workshop website!**

**PLEASE FILL IN THIS FORM UNTIL 22 SEPT. 2006 AND RETURN IT TO:**

**Internationales Buero des BMBF**  
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