

# p53MDB: *p53* Mutation Database

**Tomoko Okazaki**

okap@ims.u-tokyo.ac.jp

**Ikuo Uchiyama**

uchiyama@ims.u-tokyo.ac.jp

**Kagehiko Kitano**

kitano@ims.u-tokyo.ac.jp

**Toshihisa Takagi**

takagi@ims.u-tokyo.ac.jp

Human Genome Center, Institute of Medical Science, University of Tokyo  
4-6-1 Shirokanedai, Minato-ku, Tokyo 108, Japan

## Abstract

*The protein p53 is the most frequently mutated tumor suppressor to be identified so far in human cancers. In the 20 years since its discovery, the p53 gene has become one of the most heavily scrutinized genes in history, and literature on p53 has been massive, making impossible for us to refer to every recent publication.*

*We developed a p53 mutation database which contains information on cancer type, material type, mutation type, and patient. We provide a graphical user interface of World Wide Web (WWW) to access this database.*

## 1 Introduction

The *p53* tumor suppressor gene has come to the forefront of cancer research because it is commonly mutated in human cancer and the spectrum of *p53* mutations in these cancer is providing clues to the etiology and molecular pathogenesis of neoplasia. Detecting of *p53* abnormalities may have diagnostic, prognostic, and therapeutic implications. *p53* is clearly a component in biochemical pathways central to human carcinogenesis; p53 protein alterations due to missense mutations and loss of p53 protein by nonsense or frameshift mutations provide a selective advantage for clonal expansion of preneoplastic and neoplastic cells.

In this perspective, we developed a database p53MDB which contains information on cancer type, material type, mutation type, and patient. We provide a graphical user interface of WWW to access this database.

## 2 Overview

The p53MDB contains information on 4,360 mutations found in the human p53 gene gathered from 416 literatures. The database contains information on such cancer type as organ, histology, stage and others, material type, such mutation type as nucleotide, aminoacid, position, and loss of heterozygosity, patient, and citation. The database itself is in ASCII text format.

Public service of p53MDB started on WWW (<http://p53.genome.ad.jp/>) in October 1997. In this system (Fig.1) it is possible to show the results of data analysis, and search the database.

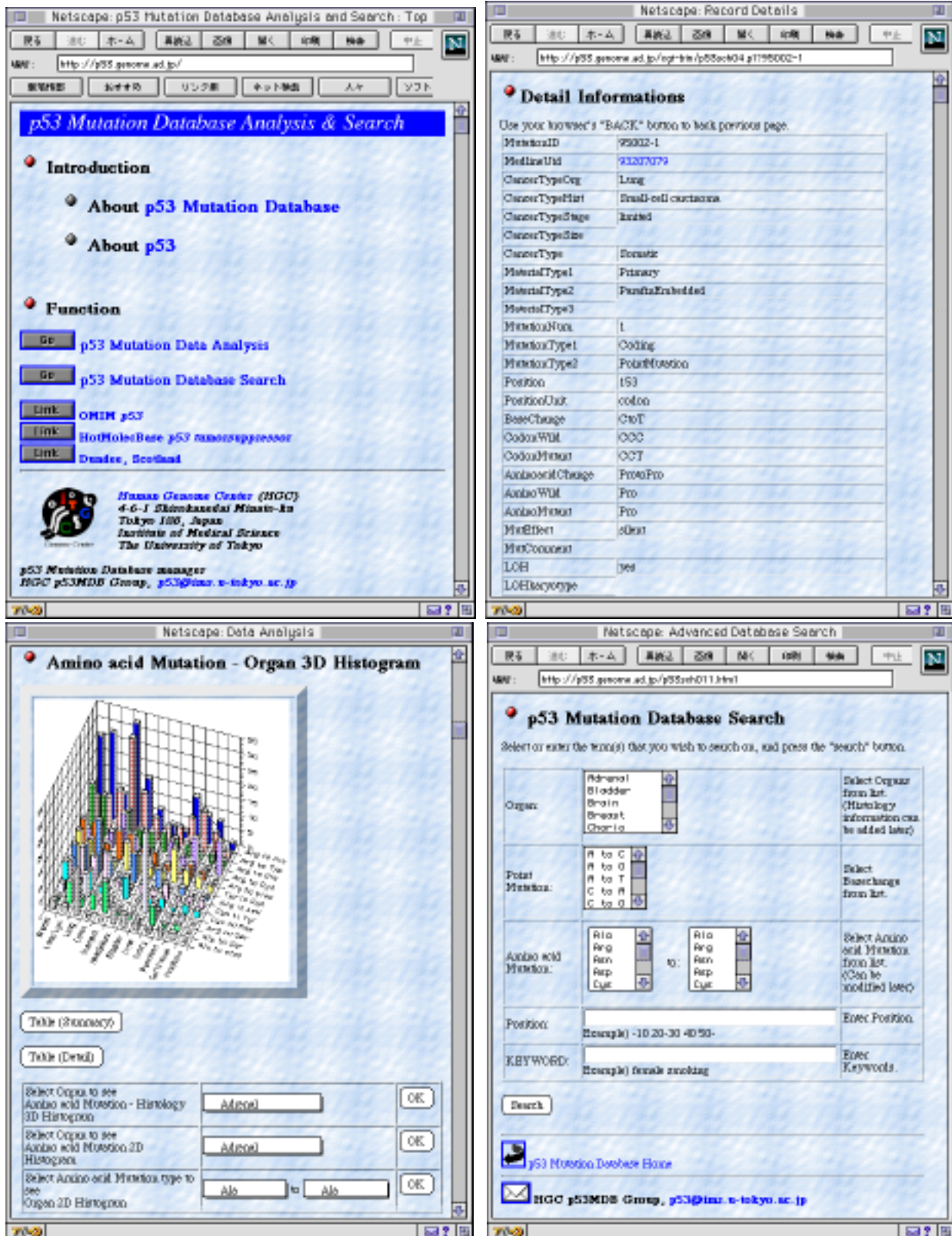


Figure 1: Sample images of p53MDB