Case Report: Mt. Muhak Hiker’s Murder
- International Association of Prosecutors 2017

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- Site: 39,094m²
- Building: 6 floors, first basement floor
Forensic Chemistry Analysis

11 Analysts, 2,104 cases analyzed (2015)
- Analysis of drug composition
- Identification of whether drugs were taken
- Drug fingerprint profiling

Forensic DNA Analysis

6 Analysts, 530 cases analyzed (2016)
- Identify Culprits of Criminal Cases
- Research on Analysis Techniques

DNA Database Management

8 Analysts, 18,784 cases analyzed (2016)
- DNA Database Registration and Maintenance
- Search on DNA Database
Increase of Violent Crimes
2003. 5.–2004. 7.  20 victims killed
(serial murder: women and old people)
DNA Database of South Korea

**DNA law**: Since July 26th, 2010.

“ACT ON USE AND PROTECTION OF DNA IDENTIFICATION INFORMATION”

*Convicted offender & Suspect (Only when detained)*

11 Category of relevant crimes

1. Arson, Fire  
2. Homicide  
3. Kidnapping, Abduction, Trafficking  
4. Rape, Molestation  
5. Robbery, Theft, Repeated Burglary  
6. Violence (Only Serious)  
7. Aggravated Punishment of specific crimes  
8. Rape, Sexual Assault  
9. Narcotics  
10. Protection of Children and Juveniles from Sexual Abuse  
11. Military crime
DNA Database of South Korea

Detained Suspect, Crime Scene Evidence → (Police, NFS) Evidence DNA database → (SPO) Convicted Offender DNA database

Search

Match!

Send a match result to the police (SMS message, within 30min.)

Convicted offender

Next day that female victim was found dead in Mt. Muhak with severe head wounds and signs of strangulation.

that the murder had happened at Mt. Muhak greatly shocked local residents and hikers.

No one thought that the famous mountain park could become a crime scene.
The local police set up the investigation Team and organized a massive manhunt to apprehend the suspect.

The police requested National Forensic Service to perform DNA analysis with the victim's possessions twice.

But DNA profile of the suspect was not found.

The police investigation met a difficulty in finding clues about the suspect. No witness, no DNA.
When the investigation came to a halt, the police tried a new investigation technique. (cell tower investigation technique).

In the end, the police pointed out Mr. A, a herb gatherer, as a prime suspect because he took the same route with the victim.

The police searched Mr. A's house and called him in 7 times to investigate his whereabouts.

Since he made an incoherent statements and it was found that he also had a history of violence, the police were convinced “It's him”
Mr. A refused the police request to be interviewed repeatedly.
The police reported it to prosecutor that Mr. A must be a perpetrator, and filed a warrant for arrest.

After prosecutor re-examined the crime scene, Mt. Muhak, he was convinced the perpetrator’s DNA would be stained at victim’s property.

So prosecutor directed the police to submit victim’s clothes and gloves to our DNA Lab. for 3rd DNA analysis.
Absence of Evidence, All Eyes Turn to DNA Analysis

Victim’s gloves, clothes, bags submitted to Our DNA Lab.
Absence of Evidence, All Eyes Turn to DNA Analysis

Meanwhile, convincing Mr. A was a real perpetrator, the police arrested him on April 21, 2016, without waiting the result of 3rd DNA analysis.
Turning Point : DNA Analysis, Closer to the Truth

Our DNA Lab put the victim’s gloves on top priority for DNA analysis, assuming “perpetrator’s DNA is more likely to be left in this item than any other things during her struggling against murderer’s attack.”
That assumption was definitely correct. Our DNA Lab found unknown male DNA profile from victim's gloves on the same day Mr. A had been arrested by the police.
Immediately, We searched that unknown male DNA profile on DNA database. Fortunately, there was ‘a match’. That match points to the real criminal, Mr. B!
We *noticed* the search result to the police right away.

3 hours later, Mr. A, the innocent, was dramatically *freed* at that night.

After 3th DNA analysis
I'm innocent

“Thank you for the Forensic Science Investigation!”
With this DNA evidence, the real criminal, Mr. B, confessed all of his crime. “I went to Mt. Muhak for relaxation. However seeing the victim, I felt lustful and followed the victim to rape her, but when she resisted I murdered her.” Mr. B got the life sentence in Dec. 2016.
Significance of Solving the Case

First of all, Koreans became well recognized about the effectiveness and power of the DNA database system. It can **provide clues** for the investigation, **identify the possible suspect** and **protect the right of innocent people**.

Second, this case was a **standard example** of the sound judgement and fast and precise DNA analysis. Our DNA Lab demonstrates this!

Last, the prosecutor’s **detailed direction** to the police is really **relevant and needed** in the course of investigation.
DNA lab. at the Supreme Prosecutors’ Office (SPO) will continue to make an effort for using outstanding DNA analysis, and managing DNA database in criminal investigations and protecting human rights.

SPO will host The 2017 Congress of International Society for Forensic Genetics (ISFG) in Seoul for the first time in Asia!!

We hope to see you again at ISFG this August!
Thank you for your Attention!

Any Questions?