Cell Line Authentication Report

STR Profiling

Sample Type: Cell Line
Sample from: The First Affiliated Hospital of Zhengzhou University
Testing Method: STR Genotyping
Report Time: May 17, 2017
COMPANY STATEMENT

1. THIS REPORT IS ONLY RESPONSIBLE FOR THE SAMPLES ANALYZED.
2. THE TESTING RESULTS AND THE ORGANIZATION NAME WILL NOT BE USED FOR ADVERTISEMENT, COMMERCIAL EXHIBITIONS, COMMERCIAL PERFORMANCE AND OTHER COMMERCIAL ACTIVITIES.
3. OBJECTIONS SHOULD BE RAISED WITHIN FIFTEEN DAYS AFTER THE RECEIPT OF THIS REPORT.
4. THE PAPER REPORT WITH CONTENT ALTERING, ADDING ARE INVALID.

Testing Company: Shanghai Biowing Applied Biotechnology Co. Ltd
Address: Room 4F, 8th Buiding, Guiguo Garden, NO.471 Guiping Road, Caohejing Development Zone, Shanghai
Tel: +86-021-33559491
Contact: YiQun Chen
E-mail: biowing@vip.163.com
Sample code

| Table 1. Sample Code |
|----------------------|
| Customer’s code      | Company Code |
| Hep3B                | 20170510-01 |

Sample Number: 1
Sample Type: Cell line
Testing Type: STR
Sample From: The First Affiliated Hospital of Zhengzhou University
Testing Method:
DNA was extracted by a commercial kit from CORNING (AP-EMN-BL-GDNA-250G). The twenty STRs including Amelogenin locus were amplified by six multiplex PCR and separated on ABI 3730XL Genetic Analyzer. The signals were then analyzed by the software GeneMapper.

Data Interpretation:
Cell lines were authenticated using Short Tandem Repeat (STR) analysis as described in 2012 in ANSI Standard (ASN-0002) by the ATCC Standards Development Organization (SDO) and in Capes-Davis et al., Match criteria for human cell line authentication: Where do we draw the line? Int J Cancer.2013;132(11):2510-9.

Test Results:
1. Result

| Table 2. Matching information on the cell lines |
|-----------------------------------------------|
| Sample Code | Multi-allele | Cell line matched | Cell Bank | EV | Percentage |
| 20170510-01 | No           | HEP-3B            | DSMZ      | 1  | 9/9        |

* Multi-allele means some STR contain more than two loci.

2. Sample Description
20170510-01:
A. The STR results showed that no multiple alleles were found in this cell line, and no cross
contamination of human cells was found in the cell line.

B. The DNA of the cell lines found to perfect match the type of cell lines in a cell line retrieval, DSMZ database shows that cells called HEP-3B, Hep 3B2.1-7 [Hep 3B, Hep-3B, Hep3B], corresponding to the cell number CRL-9444, 93.

| Loci     | Sample information                      | Cell Bank information                        |
|----------|-----------------------------------------|----------------------------------------------|
|          | **Sample name** : HEP3B                  | **Cell line name** : HEP-3B                   |
|          | **Allele1** | **Allele2**  | **Allele3** | **Allele1** | **Allele2** | **Allele3** |
| D5S818   | 13         | 13          | 13          | 13          | 13          |             |
| D13S317  | 12         | 14          | 12          | 14          |             |             |
| D7S820   | 8          | 10          | 8           | 10          |             |             |
| D16S539  | 10         | 10          | 10          | 10          |             |             |
| VWA      | 17         | 17          | 17          | 17          |             |             |
| TH01     | 6          | 7           | 6           | 7           |             |             |
| AMEL     | X          | X           | X           | X           |             |             |
| TPOX     | 9          | 9           | 9           | 9           |             |             |
| CSF1PO   | 8          | 8           | 8           | 8           |             |             |
| D12S391  | 17         | 17          |             |             |             |             |
| FGA      | 18         | 18          |             |             |             |             |
| D2S1338  | 21         | 25          |             |             |             |             |
| D21S11   | 30         | 31          |             |             |             |             |
| D18S51   | 20         | 20          |             |             |             |             |
| D8S1179  | 12         | 12          |             |             |             |             |
### Others:

1. Genotyping Strategy and Site Distribution

   **Attached Table. Experimental Strategy and Sites**

   | Strategy 1 | Strategy 2 | Strategy 3 | Strategy 4 |
   |------------|------------|------------|------------|
   | 1          | TH01       | TPOX       | D3S1358    | AMEL       |
   | 2          | D12S391    | VWA        | D13S317    | D5S818     |
   | 3          | D7S820     | D8S1179    | D6S1043    | D2S1338    |
   | 4          | CSF1PO     | PENTAD     | D16S539    | D21S11     |
   | 5          | FGA        | D19S433    | D18S51     |
   | 6          | PENTAE     |            |            |

   *The allele match algorithm compares the 8 core loci plus amelogenin only, even though alleles from all loci will be reported when available.*

2. DSMZ tools was used to carry on the cell line comparison, which contains 2455 cell lines STR data from ATCC, DSMZ, JCRB, ECACC, GNE and RIKEN databases. If the cell is not included in the above cell library, users need to compared with other databases.

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Technician: Menglu Shen  
Check: Yang Bai  
Person in Charge: Yiqun Chen  
Issue date: May 17, 2017
| Sample File | Sample Name | Panel          | OS | SQ |
|-------------|-------------|----------------|----|----|
| 89 A12 XJiaoJianDing-2-0517.fsa | Hep3B | STR Profile 4-dup |   |    |
|             | D3S1358     | D13S317        | D6S1043 | D16S539 |
|             | al 15       | al 12          | al 12  | al 10 |

| 79 G10 XJiaoJianDing-2-0517.fsa | Hep3B | STR Profile 5-dup |   |    |
|                                |       | PENTAE          |   |    |
|                                |       |                | al 5  | al 16 |

| 52 D07 XJiaoJianDing 0517.fsa | Hep3B | STR Profile 6-dup |   |    |
|                              |       | D19S433         | PENTAD |    |
|                              |       |                | al 12.2 | al 12 |
|                              |       |                | al 14  | al 14 |