# LIS Protocol

**Point 1: Data Upload**

1. Patient data upload format

MSH|^~\\&|analyzer||Company|Instrument|Time||ORU^R01|MSH Index|P|2.3.1||||0||ASCII|||

PID|PIDIndex||MedicalRecordNo.|BedNo.|PatientName|Ward|Age|Sex|Department|||||||||||||||||||

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OBR|OBR Index|Sample NO.|Patient Name|Instrument Name|Barcode No.||Test time||||||Send date|Send Time||Department

|||Sender||||||||||Tester||Test date||||||||||

OBX|OBX Index|NM|Item LIS No.| Item Name|Item Result|Item Unit|||||F|||Testing Date|||

Example:

MSH|^~\&|analyzer||AAA|Coagulation Analyzer|20130426143537||ORU^R01|1|P|2.3.1||||0||ASCII|||

PID|1||||||0|O|||||||||||||||||||||

OBR|1|20130313011||Coagulation Analyzer|001188||164113||||||20130307|150456|||||||||||||||Administrator||20130307|||||||||||||

OBX|1|NM|1|PT|13.4|s |||||F|||20130307|||

OBX|2|NM|2|PT-%|1125.954|%|||||F|||20130307|||

OBX|3|NM|3|PT-Ratio|1.117| Ratio |||||F|||20130307|||

OBX|4|NM|4|PT-INR|29.705|INR|||||F|||20130307|||

OBX|5|NM|5|dFbg|0|mg/dl|||||F|||20130307|||

OBX|6|NM|6|APTT|0^0|s^Ratio|||||F|||20130307||||

OBX|7|NM|7|TT|0|s|||||F|||20130307||||

OBX|8|NM|8|FIB|16.0^261.619|s^mg/dL|||||F|||20130307||||

Server Response:

MSH|^~\&|LIS-Server|AAA|Coagulation Analyzer |Rac2800|20181207144531||ACK^R01|1|P|2.3.1||||0||ASCII|||

MSA|AA|1|Message accepted|||0|

2. Upload QC data format

MSH|^~\\&|analyzer||company name|instrument name|time||ORU^R01|MSH index|P|2.3.1||||2||ASCII|||

OBR|OBR Index Project LIS Code|Project Name|Company Name|Quality Control Solution Number|Quality Control Substance Name|Quality Control Substance Lot Number|Quality Control Validity Period|Quality Control Level|Quality Control Target Value|Quality Control Standard Deviation|Quality Control Coefficient of Variation|Quality Control Method|Test Date|Test Results|||||||||||||||||||||||||||

Example:

MSH|^~\&|analyzer||AAA|Coagulation

Analyzer|20130426143736||ORU^R01|3|P|2.3.1||||2||ASCII|||
OBR|1|1|PT|Coagulation
Analyzer||twyeq|8465|20130406|High|15.5|0|0|0|20130406|0.000||||||||||||||||||||
||||||||||
LIS server Response:
MSH|^~\&|LIS-Server|AAA|Coagulation Analyzer
|Rac2800|20181207144531||ACK^R01|1|P|2.3.1||||0||ASCII|||
MSA|AA|1|Message accepted|||0|

**Point 2: Sample date Inquiry**

MSH|^~\\&|analyzer||Company name|instrument name|date||ORU^R01|MSH index|P|2.3.1||||1||ASCII|||
QRD|Query date|R|D|1|||RD|Barcode number|OTH|||T|
QRF|Instrument name|Start time|End time|||RTC|COR|ALL||
Example: Query the sample with barcode number 001188
MSH|^~\&|analyzer||Rayto|Coagulation
Analyzer|20130426144141||QRY^Q02|5|P|2.3.1||||||ASCII|||
QRD|20130426144141|R|D|2|||RD|001188|OTH|||T|QRF|Coagulation
Analyzer|20130426144141|20130426144141|||RTC|COR|ALL||

The Example message format of the “already found” response:

MSH|^~\&|analyzer|Rayto|Coagulation
Analyzer|20130426145050||DSR^Q03|6|P|2.3.1||||||ASCII|||MSA|AA|6|Message accepted|||0|
ERR|0|
QAK|SR|OK|QRD|20130426145026|R|D|3|||RD|001188|OTH|||T|QRF|BS-380|20130426145026|20130426145026|||RCT|COR|ALL||
DSP|1||123||| //Patient Record No.
DSP|2||456||| //Bed
DSP|3||Tom||| //Patient Name
DSP|4||19620908122000||| //Birthday
DSP|5||M||| //Sex
DSP|6|||||
DSP|7|||||
DSP|8||A||| //Ward No.
DSP|9|||||
DSP|10|||||
DSP|11|||||
DSP|12|||||
DSP|13|||||
DSP|14|||||
DSP|15|| |||

DSP|16|||||
DSP|17|| |||
DSP|18|| |||
DSP|19|| |||
DSP|20|| |||
DSP|21||001188||| //Barcode No.
DSP|22||3||| //Sample No.
DSP|23||20100729112254||| //Send Time
DSP|24|||||
DSP|25|||||
DSP|26|| |||
DSP|27||Wai ke||| //Sender
DSP|28||ABC||| //Department
DSP|29||1^PT^s^11-14||| //Item 1
DSP|30||2^APTT^s^20-30||| //Item 2
...
DSP|28+n||n^ItemName^s^20-30||| //Item n
DSC||

The Example message format of the “Not found” response:

MSH|^~\&|analyzer|Rayto|Coagulation
Analyzer|20130426145050||QCK^Q02|6|P|2.3.1||||||ASCII|||MSA|AA|6|Message
accepted|||0|
ERR|0|
QAK|SR|NF|