



Human vs Non-Human Bone Origin Determination Test No. 20-5501 Summary Report

Each sample set consisted of digital images of five different bones of unknown origin. Participants were asked to determine if each bone was of human origin. Data were returned from 23 participants and are compiled into the following tables:

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This report contains the data received from the participants in this test. Since these participants are located in many countries around the world, and it is their option how the samples are to be used (e.g., training exercise, known or blind proficiency testing, research and development of new techniques, etc.), the results compiled in the Summary Report are not intended to be an overview of the quality of work performed in the profession and cannot be interpreted as such. The Summary Comments are included for the benefit of participants to assist with maintaining or enhancing the quality of their results. These comments are not intended to reflect the general state of the art within the profession.

Participant results are reported using a randomly assigned "WebCode". This code maintains participant's anonymity, provides linking of the various report sections, and will change with every report.

Manufacturer's Information

Each sample pack consisted of several digital images (2-3) of five different bones. Participants were asked to determine which of the bones (Items 1 through 5) were human in origin and which were of non-human animal origin.

SAMPLE PREPARATION:

Bones from a variety of species were selected and photographed. Photographs of several representative perspectives were chosen for each bone. These images were digitally resized to scale, placed in a template (frame), and adjusted for consistency of color and contrast. The digital download images were then zipped and uploaded to the CTS Portal for download by test participants.

Item	Source
1	Domestic dog, tibia
2	Domestic pig, tooth
3	Domestic deer, vertebra
4	Human, adult scapula
5	Human, adult humerus

Summary Comments

This test was designed to allow participants to assess their proficiency in determining whether a bone was of human origin. Items 4 and 5 were of human origin and Items 1, 2, and 3 were of non-human origin. Refer to the Manufacturer's Information for preparation details.

Of the 23 responding participants, all participants identified both Item 4 and Item 5 as being of human origin. All participants identified Item 1 and Item 3 as being of non-human origin. Twenty-two of 23 respondents identified Item 2 as being of non-human origin; the remaining participant reported an inconclusive result stating that more macroscopic images were necessary to make a determination, but that it was most likely not human.

Examination Results

What is the origin of the submitted bones (Items 1-5)?

TABLE 1

WebCode	Item 1	Item 2	Item 3	Item 4	Item 5
627LGA	Non-Human	Non-Human	Non-Human	Human	Human
APTE4V	Non-Human	Non-Human	Non-Human	Human	Human
BTRPZV	Non-Human	Non-Human	Non-Human	Human	Human
C9J3RW	Non-Human	Non-Human	Non-Human	Human	Human
E9Q4QZ	Non-Human	Non-Human	Non-Human	Human	Human
FEQ3EV	Non-Human	Non-Human	Non-Human	Human	Human
G88Y8T	Non-Human	Non-Human	Non-Human	Human	Human
K3KFFL	Non-Human	Non-Human	Non-Human	Human	Human
KHXR7U	Non-Human	Non-Human	Non-Human	Human	Human
KUQBLK	Non-Human	Non-Human	Non-Human	Human	Human
L67PXL	Non-Human	Non-Human	Non-Human	Human	Human
LLF9ZJ	Non-Human	Non-Human	Non-Human	Human	Human
LLWPTR	Non-Human	Non-Human	Non-Human	Human	Human
N6G4KL	Non-Human	Non-Human	Non-Human	Human	Human
PPMXRH	Non-Human	Non-Human	Non-Human	Human	Human
PUD82G	Non-Human	Non-Human	Non-Human	Human	Human
TLTBMK	Non-Human	Non-Human	Non-Human	Human	Human
TPTLJK	Non-Human	Non-Human	Non-Human	Human	Human
URA74E	Non-Human	Non-Human	Non-Human	Human	Human
V6T9YC	Non-Human	Non-Human	Non-Human	Human	Human
VFBWTB	Non-Human	Non-Human	Non-Human	Human	Human

TABLE 1

WebCode	Item 1	Item 2	Item 3	Item 4	Item 5
VLWEU6	Non-Human	Inconclusive	Non-Human	Human	Human
Y4AMFC	Non-Human	Non-Human	Non-Human	Human	Human

Response Summary						Participants: 23
<i>What is the origin of the submitted bones (Items 1-5)?</i>						
	<u>Item 1</u>	<u>Item 2</u>	<u>Item 3</u>	<u>Item 4</u>	<u>Item 5</u>	
Human	0 (0.00%)	0 (0.0%)	0 (0.0%)	23 (100.0%)	23 (100.0%)	
Non-Human	23 (100.00%)	22 (95.7%)	23 (100.0%)	0 (0.0%)	0 (0.0%)	
Inconclusive	0 (0.00%)	1 (4.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	

Additional Comments

TABLE 2

WebCode	Additional Comments
C9J3RW	Item 1 corresponds to a non-human tibia, compatible with the right side. Item 2 corresponds to a non-human molar. Item 3 corresponds to a non-human vertebra of a immature specimen. Item 4 corresponds to a part of a human left scapula. Item 5 corresponds to the proximal part of a human left humerus.
L67PXL	Item 4 - assessment limited due to examination by photographs alone, would normally physically examine a bone like this, not examine only by photographs
LLF9ZJ	Item 1: It is a tibia with the medial malleolus which is different from human bones. Item 2: According to the structure of the occlusal surface, the tooth is Non-Human. Item 3: It differed from human bones depending on morphological features of the transverse , mamillary and spinous process. Item 4: It is a fragment of human scapula. Though the coracoid process and the acromion were destroyed, we found the notch of scapula and the glenoid cavity had human features. Item 5: Based on the anatomical features of the head, the tubercle and the intertubercular sulcus, we considered the bone to be a fragment of human humerus .
VLWEU6	Q2 The tooth represented in the image is most likely NOT HUMAN however more macroscopic images are required particularly of the occlusal surface, which is difficult to see in the provided images. Further the images should be forwarded to a forenisc odontologist for identification. Q4 and Q5 are partial human bones, however enough diagnostic features can be observed to form this opinion. Q4 is a partial scapula (possibly left side). Q5 depicts a partial left proximal humerus.

-End of Report-
(Appendix may follow)

Test No. 20-5501: Human vs Non-Human Bone Origin Determination

DATA MUST BE SUBMITTED BY **March 16, 2020, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: VT3JY7

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

Scenario:

In five unrelated cases, photographs of bones have been submitted for analysis to determine whether they are human or non-human in origin. Each Item (1-5) below represents a separate, independent case.

Items Submitted (Sample Pack HNH):

Item 1: Images 1a, 1b

Item 2: Images 2a, 2b, 2c

Item 3: Images 3a, 3b, 3c

Item 4: Images 4a, 4b, 4c

Item 5: Images 5a, 5b, 5c

To verify a complete and accurate download, the hash value for the downloaded .ZIP file is as follows:

20-5501_Human vs Nonhuman.zip MD5 hash value: a8d6b1067e594988f10de8cfa3ca4a85

20-5501_Human vs Nonhuman.zip SHA1 hash value: 653eddab846b815711d136f8b884363744a02397

1.) What is the origin of the submitted bones (Items 1-5)?

<i>Item 1</i>	Human <input type="radio"/>	Non-Human <input type="radio"/>	Inconclusive* <input type="radio"/>
<i>Item 2</i>	Human <input type="radio"/>	Non-Human <input type="radio"/>	Inconclusive* <input type="radio"/>
<i>Item 3</i>	Human <input type="radio"/>	Non-Human <input type="radio"/>	Inconclusive* <input type="radio"/>
<i>Item 4</i>	Human <input type="radio"/>	Non-Human <input type="radio"/>	Inconclusive* <input type="radio"/>
<i>Item 5</i>	Human <input type="radio"/>	Non-Human <input type="radio"/>	Inconclusive* <input type="radio"/>

*Should an item(s) be marked "Inconclusive", please document the reason in the Additional Comments section of this data sheet.

Please note: Any additional formatting applied in the free form space below will not transfer to the Summary Report and may cause your information to be illegible. This includes additional spacing and returns that present your responses in lists and tabular formats.

2.) Additional Comments

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or A2LA. Please select one of the following statements to ensure your data is handled appropriately.

- This participant's data is intended for submission to ASCLD/LAB, ANAB, and/or A2LA. (Accreditation Release section below must be completed.)
- This participant's data is not intended for submission to ASCLD/LAB, ANAB, and/or A2LA.

Have the laboratory's designated individual complete the following steps **only if your laboratory is accredited in this testing/calibration discipline** by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory.

ANAB Certificate No.
(Include ASCLD/LAB Certificate here)

A2LA Certificate No.

Step 2: Complete the Laboratory Identifying Information in its entirety.

Authorized Contact Person and Title

Laboratory Name

Location (City/State)