Craniofacial Mouse Ontology & Craniofacial Human-Mouse Mappings Ontology

RS Travillian¹, JF Brinkley², TC Cox³, ML Cunningham³, LT Detwiler², CL Heike³, H Hochheiser⁴, JLV Mejino Jr², L Shapiro¹
¹ Dept. of Computer Science & Engineering, Univ. of Washington, Seattle, WA, ² Dept. of Biological Structure, Univ. of Washington, Seattle, WA, ³ Seattle Children’s Hospital Research Institute, WA, ⁴ Dept. of Biomedical Informatics, Univ. of Pittsburgh, Pittsburgh, PA

1. Introduction

• OCDM: application ontology to serve as unifying framework for integrating multiple forms of data generated by different members of the FaceBase Consortium
• Craniofacial Human Ontology (CHO), the Craniofacial Mouse Ontology (CMO), and the Craniofacial Human to Mouse Mapping Ontology (CHMMO): components of OCDM
• CMO: Craniofacial Mouse Ontology: ontology of mouse craniofacial structures
• CHMMO: Craniofacial Human-Mouse Mapping Ontology: mappings of mouse structures to homologous human structures

2. Data sources

• CHO: Craniofacial Human Ontology subset of Foundational Model of Anatomy
• Mouse Anatomy Dictionary: Jackson Laboratories
• PubMed literature on translational research

3. Methodology

FMA

MA

CHO

CMO

CHMMO

4. Validation

• Programmatically generated anatomical structures and mappings are validated by domain experts
• False positives are removed from the knowledge base, and false negatives fixed by adding needed structures (examples: “snout”, “vibrissae”)

5. Results

CMO

CHMMO

MAPPED BY FMA CLASS

Macilla

MAPPED BY FMA ID

9711

MAPPING CONFIDENCE

high

Mapping types

1-1 mapping to

Tongue (Homo sapiens) (CHO)

Tongue (Mus musculus) (CMO)

1-null mapping to

Basiphenoid bone (Mus musculus) (CMO)

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many-many mapping to

12 Molars (Homo sapiens) (CHO)

6 Molars (Mus musculus) (CMO)

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