1. **REAGENTS**

This document summarize an initial work that has been done within the eagle-I project and presented at the OBI workshop in San Diego on March 2011.

**Antibody**

Home: OBI should not be the primary place for these to live. This will require community coordination. Melissa and Matt will work together with Bjoern and Anita on this.

Status in OBI: Currently in OBI as 'material entity' > 'protein complex' > immunoglobulin complex, circulating (antibody).

**Cell Line**

Home: Not clear where these should live. Outsource if there is a good cell line ontology where these could live. But no good one out there that we are aware of. It was believed that cell lines were once in the cell ontology, but we think they may be getting rid of these because they should live in OBI or in some ontology dedicated to cell lines.

Status in OBI: Currently in OBI as 'material entity' > 'cell culture' > 'cell line culture'. Should remain here or perhaps be imported/asserted as a 'processed material’

**Chemical Reagent**

Home: should live in ChEBI

Status in OBI: Closest class currently in OBI is 'material entity' > 'molecular entity'. The eagle-i hierarchy of chemical types may best fit here - then we can classify/place existing laundry list of specific molecular entities currently in OBI within this hierarchy.

**Construct**

Home: These should live in OBI.

Status in OBI: corresponding classes in OBI exist in two places : (1) 'material entity' > 'cloning vector' and (2) 'material entity' > 'molecular entity' > macromolecule > nucleic acid > deoxyribonucleic acid > double-stranded DNA > plasmid > cloning plasmid. We propose to assert construct classes from eagle-i as children of double-stranded DNA, and infer them to be 'reagents' when they are indicated to *have\_*role 'reagent role', and/or infer them to be 'processed materials' when they are the *specified\_output\_of* some 'material processing' process.

**Nucleic Acid Reagent**

Home: Those constructed specifically for experimental use should live in OBI (primer, probe, etc that are manufactured/processed materials for use in experiments). But others may live elsewhere, such as the Sequence Ontology (RNA oligo, for example. BAC or BAC library?)

Status in OBI: Currently seen as 'material entity' > 'molecular entity' > macromolecule > nucleic acid. Hierarchy of nucleic acid reagents (form eagle-i) can be built here (with some classes imported from SO or ChEBI, and others native to OBI).

**Protein reagent**

Home: should live in the Protein Ontology (PRO) when they represent naturally occurring proteins. However, recombinant proteins, fusions, etc. might live in OBI?

Status in OBI: Currently live as 'material entity' > 'molecular entity' > macromolecule > peptide. Peptide has two children : (i) 'protein', which would seem a proper place to subsume naturally occurring proteins imported from PRO; and (ii) 'synthetic peptide' which could subsume non-natural recombinant proteins representing reagents, as defined/modeled in eagle-I (depends on how this class is defined, and how 'synthesis' and 'synthetic' are to be understood . . . are recombinant proteins produced in bacteria 'synthetic'?)

* Would any recombinant peptide/protein produced in bacteria be considered a processed material?
* What about recombinant/synthetic versions of naturally existing proteins? How to classify these?

**Reagent Libraries**

Home: these should all live in OBI (and atomic parts live in their respective ontologies)

* for example, chemical libraries live in OBI, but individual chemicals that make up libraries should live in ChEBI

Status in OBI: several libraries exist in OBI, as children of 'material entity' (phage display library, cDNA library) or of 'processed material' (paired-end library, screening library). We would propose that all libraries are 'processed materials', in that they are collections created for the purpose of an investigation.