Queries - Ontological interpretation of data

Q1 – Which kinds of biological process are included in organisms of a specific type A?

* DL QUERY:

|  |
| --- |
| *BiologicalProcess* and (**isIncludedIn** some *A*) |

Change *A* by an organism of choice. I choose Zebrafish.

* Result: Direct Subclass >> MB\_Zebrafish\_BHMT\_HCY

Q2 – Which are the kinds of protein that, while in organisms, bear the capability of enabling a specific biological type *B*?

* DL QUERY:

|  |
| --- |
| *Protein* and  (**isIncludedIn** some (*Organism* and  (**isBearerOf** some (*Disposition* and  (**isRealizedBy** only B))))) |

Change *B* by a molecular activity (go:molecular\_function) of choice. I choose ‘zinc ion binding’.

* Result: Direct Subclass >> BHMT\_Zebrafish

Q3 – Which are the kings of biological processes that have as participant a specific protein of type *A*, which bears the function of performing only molecular activities of type *B*?

* DL Query:

|  |
| --- |
| *BiologicalProcess* and  (**hasParticipant** some (A and  (**isBearerOf** some (*Function* and  (**isRealizedBy** only *B*))))) |

Change *A* by a protein and *B* by a molecular activity (go:molecular\_function) of choice. I choose BHMT and BHSMA, respectively. *A* can be placed by more than one class with a logical disjunction of the type (*A’* or *A’’* or …or *An*). The same holds for *B*.

* Result: Direct subclass >>> MB\_Zebrafish\_BHMT\_HCY

Q4 – Which are the kinds of biological processes that entail some risk of causing a specific dysfunctional state *C* (phenotype)?

DL Query:

|  |
| --- |
| *BiologicalProcess* and (**realizationOf** only (*Risk* and (**causes** some C))) |

Change *C* by a dysfunctional process (phenotype) of choice. I choose ‘Ph2’.

It is also able to change *C* by one or more dysfunctional processes ***n***, such as (***n1*** or ***n2*** or…or ***n***)**.**

* Result: Direct subclass >>> MB\_Zebrafish\_BHMT\_HCY\_Dysfunctional

Q5 – Which kinds of organisms bear the capability of realizing a specific biological process of type *A*?

* DL Query:

|  |
| --- |
| *Organism* and  (**isBearerOf** some (*Disposition*  and (**isRealizedBy** only *A*))) |

Change *X* by a biological process of choice. I choose ‘MB’.

* Result: Direct subclass >>> Zebrafish