Mining KEGG for metabolite-gene relations

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***Abstract*—This Research Object contains workflows, example results and example workflow runs for an experiment on relating metabolites to genes by mining the KEGG database.**

I. Introduction

This document provides a paper-style view of the Research Object (RO) "*Mining KEGG for metabolite-gene relations*"[1] generated . The RO has been created, managed and preserved via ROHub platform [1]. Please refer to [2] for a general introduction to the RO concept, to [3] for a detailed description of the RO model, and to [4] for more information about ROHub platform.

The RO is of type *"Basic", which represents a general aggregation of related resources.* [2].

Additionally, this RO has been enriched automatically with the following annotations:

- concepts (most frequently mentioned in the RO): *metabolite, workflows*
- domains (fields of knowledge in which the main concepts are commonly used): *biology*
- frequent expressions (most frequently mentioned noun phrases): *example result, metabolite-gene relation*

II. Resources

The resources encapsulated by the RO are summarized in table I

TABLE I
Research Object Resources

name	size	type
kegg_pathway_scheme_738640.t2flow	80.6 KB	Workflow
kegg_reactions_scheme_6306.t2flow	225.5 KB	Workflow
KEGG_Pathway_Scheme.wfbundle	22.4 KB	
Kegg_Reactions_Schem.wfbundle	33.3 KB	

Acknowledgment

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References

[1] The Research Object Management Platform - ROHub http://www.rohub.org/.

[2] K. Belhajjame, O. Corcho, D. Garijo, J. Zhao, P. Missier, D. Newman, R. Palma, S. Bechhofer, E. García Cuesta, J. M. Gómez-Pérez, S. Soiland-Reyes, L. Verdes-Montenegro, D. De Roure, and C. Goble "Workflow-Centric Research Objects: First Class Citizens in Scholarly Discourse", Proceedings of Workshop on the Semantic Publishing, SePublica Crete, Greece 28 May 2012.

[3] Belhajjame K., Zhao J., Garijo D., Gamble M., Hettne K., Palma R., Mina E., Corcho O., Gómez-Pérez J. M., Bechhofer S., Klyne G., Goble C. "Using a suite of ontologies for preserving workflow-centric research objects", Journal of Web Semantics: Science, Services and Agents on the World Wide Web Available online 11 February 2015 ISSN 1570-8268.

[4] Palma R., Corcho O., Gómez-Pérez J. M., Mazurek, C. "ROHub - A Digital Library of Research Objects Supporting Scientists Towards Reproducible Science". In Semantic Publishing Challenge of Proc. Extended Semantic Web Conference (ESWC) Crete, Greece 25-29 May 2014

[1] *http://sandbox.rohub.org/rodl/ROs/mining_kegg_workflows/*

[2] See RO types definitions at http://w3id.org/ro/earth-science#