Compact Identifiers by Identifiers.org and N2t.Net

Towards *findable*, *accessible*, *interoperable* and *re-usable* (FAIR) data

Sarala M Wimalaratne, Manuel Bernal Llinares, John Kunze, Tim Clark and Henning Hermjakob

N2T

Compact Identifiers [1] support global unique identification of data objects. A Compact Identifier is a unique prefix indicating the assigning authority and a locally assigned accession number (prefix:accession).

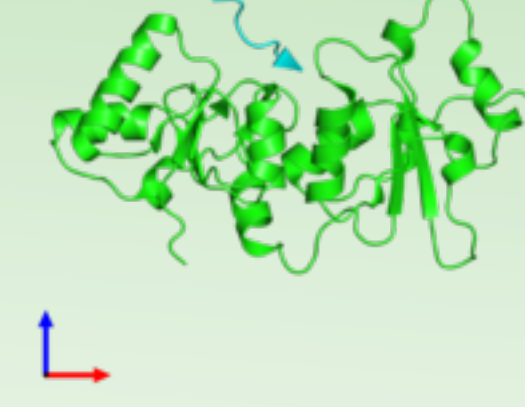> Identify, cite and annotate your data using Compact Identifiers.
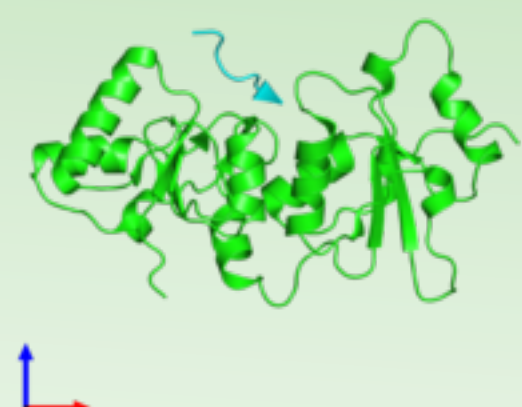
Identify
pdb:4y2g
Structure of BRCA1 BRCT domains in complex with Abraxas single phosphorylated peptide.
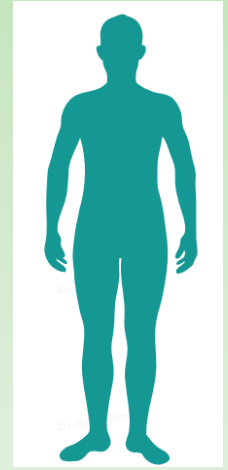
Cite
" … the protein we used (**pdb:4y2g**) in our tests … "

Annotate
pdb:4y2g → Source organism → **taxon:9606**

Compact Identifier Services

The Identifiers.org [2] and N2T.net systems provide a range of services to reference, resolve and validate persistent Compact Identifiers to promote the citability of individual data providers and integration with e-infrastructures.

> Make your Compact Identifiers actionable through
> https://identifiers.org/[prefix:accession]
> https://n2t.net/[prefix:accession]

Create Compact Identifiers

Create Compact Identifiers by requesting a prefix for a data resource (a set of named objects).

Request an identifier prefix
Please complete this form to register an identifier prefix that can be recognized by the meta-resolvers at identifiers.org and n2t.net. Completing all fields will enable swift processing of your request.
*Required

Resource details
The "resource" is the set of data that being provided, such as a database, photo archive, document repository, or ontology.

Description:
One or more sentences describing the resource. Example: The Protein Data Bank is the single worldwide archive of structural data of biological macromolecules.
Your answer

> Register 'pdb' for Protein Databank
> https://identifiers.org/request/prefix

Resolve Compact Identifiers

Actionable Compact Identifiers provide unique stable, resolvable and location-independent URIs to identify and locate data objects.

http://www.ebi.ac.uk/pdbsum/4y2g
http://pdb...do?structureId=4y2g
http://w...mary/4y2g
http://proteopedia.o...
http://www.pdbe.org/4y2g

> **https://identifiers.org/pdb:4y2g**
> **https://n2t.net/pdb:4y2g**

Identifiers.org Services

APIs to access the Registry content, find valid prefixes, identifiers and providers, and validate Compact Identifiers.
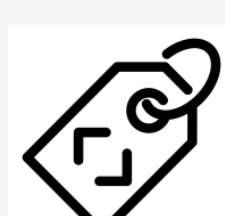
Metadata service for accessing Schema.org metadata provided by data providers.

SPARQL Endpoint [3] to perform conversions between different URI schemes recorded in the Registry.

References

1. Sarala M. Wimalaratne et al. *Uniform resolution of compact identifiers for biomedical data.* Sci. Data 5:180029 doi:10.1038/sdata.2018.29 (2018).
2. Juty, N., N. Le Novère, and C. Laibe, *Identifiers.org and MIRIAM Registry: community resources to provide persistent identification.* Nucleic Acids Res, 2012. **40**(Database issue): p. D580-6.
3. Wimalaratne, S.M., et al., *SPARQL-enabled identifier conversion with Identifiers.org.* Bioinformatics, 2015. **31**(11): p. 1875-7.

Supported by

EMBL-EBI · University of California CDL California Digital Library · ELIXIR · FORCE11 The Future of Research Communications and e-Scholarship · SCIENTIFIC DATA · DCPPC DATA COMMONS PILOT PHASE CONSORTIUM · FREYA