

**Table S1:** List of IDs and other information retrieved from each database.

Database	Compound Information	Gene Information	Pathway Information
KEGG	<ul style="list-style-type: none"><li>• ID (prefix “C”)</li><li>• Synonyms</li><li>• Other IDs (ChEBI, CAS)</li></ul>	<ul style="list-style-type: none"><li>• ID (prefix “hsa”)</li><li>• Other IDs (UniProt, KEGG, Ensembl, HUGO name)</li></ul>	<ul style="list-style-type: none"><li>• ID (prefix “map” and “hsa”)</li><li>• Name</li></ul>
HMDB	<ul style="list-style-type: none"><li>• ID (prefix “HMDB”)</li><li>• Synonyms</li><li>• Other IDs (ChEBI, DrugBank, ChemSpider, KEGG, BioCyc, PubChem compound, CAS)</li></ul>	<ul style="list-style-type: none"><li>• ID (UniProt)</li><li>• Other IDs (HUGO name)</li></ul>	<ul style="list-style-type: none"><li>• ID (SMPDB id)</li><li>• Name</li><li>• Ontologies (biofluid type, cellular location, origins, tissue location)</li></ul>
Reactome	<ul style="list-style-type: none"><li>• ID (ChEBI ID)</li></ul>	<ul style="list-style-type: none"><li>• ID (UniProt)</li></ul>	<ul style="list-style-type: none"><li>• ID (prefix “R-HSA-”)</li><li>• Name</li></ul>
WikiPathways	<ul style="list-style-type: none"><li>• ID</li><li>• Other IDs (HMDB, KEGG, PubChem compound, ChEBI, CAS, ChemSpider)</li></ul>	<ul style="list-style-type: none"><li>• ID</li><li>• Other IDs (UniProt, Entrez, Ensembl)</li></ul>	<ul style="list-style-type: none"><li>• ID (prefix “WP”)</li><li>• Name</li><li>• Category (e.g. Metabolism)</li></ul>