

Table 1. Ontology classes used in the manuscript (note: instances are not included):

#	Classes	Sources and term IDs	Parent class	Figures
1	<i>Brucella</i>	http://purl.org/obo/owl/NCBITaxon#NCBITaxon_234	Alphaproteobacteria	2
2	<i>Brucella abortus</i>	http://purl.org/obo/owl/NCBITaxon#NCBITaxon_235	<i>Brucella</i>	2
3	<i>zoonotic disposition</i>	http://purl.obolibrary.org/obo/IDO_0000453	infectious disposition	2
4	<i>process of establishing B. abortus infection</i>	http://purl.obolibrary.org/obo/IDO_0100426	process of establishing an infection	2
5	<i>cattle brucellosis</i>	http://purl.obolibrary.org/obo/IDO_0100031	brucellosis	
6	<i>human brucellosis</i>	http://purl.obolibrary.org/obo/IDO_0100028	brucellosis	2
7	<i>human brucellosis pathogen role</i>	http://purl.obolibrary.org/obo/IDO_0100422	pathogen role	2
8	<i>cattle brucellosis pathogen role</i>	http://purl.obolibrary.org/obo/IDO_0100421	pathogen role	2
9	<i>human brucellosis disease course</i>	http://purl.obolibrary.org/obo/IDO_0100199	brucellosis disease course	2
10	<i>cattle brucellosis disease course</i>	http://purl.obolibrary.org/obo/IDO_0100418	brucellosis disease course	2
11	<i>Brucella infected cow</i>	http://purl.obolibrary.org/obo/IDO_0100092	Brucella infected organism	2
12	<i>Brucella infected human</i>	http://purl.obolibrary.org/obo/IDO_0100091	Brucella infected organism	2
13	<i>Brucella-contaminated milk</i>	http://purl.obolibrary.org/obo/IDO_0100432	material_entity	2
14	<i>Brucella-contaminated milk producing process</i>	http://purl.obolibrary.org/obo/IDO_0100478	milk producing process	2
15	<i>Brucella-contaminated milk producing dispositions</i>	http://purl.obolibrary.org/obo/IDO_0100130	milk producing disposition	2
16	<i>drinking function</i>	http://purl.obolibrary.org/obo/IDO_0100429	function	2
17	<i>human brucellosis symptom</i>	http://purl.obolibrary.org/obo/IDO_0100429	brucellosis symptom	3
18	<i>elevated temperature</i>	http://purl.obolibrary.org/obo/IDO_0100623	sign	3
19	<i>normal temperature</i>	http://purl.obolibrary.org/obo/IDO_0100622	sign	3
20	<i>body temperature elevation</i>	http://purl.obolibrary.org/obo/IDO_0100625	bodily process	3
21	<i>temperature staying normal</i>	http://purl.obolibrary.org/obo/IDO_0100624	bodily process	3
22	<i>diurnal variation of temperature</i>	http://purl.obolibrary.org/obo/IDO_0100022	brucellosis pathological bodily process	3
23	<i>Brucella virulence factor</i>	http://purl.obolibrary.org/obo/IDO_0100033	virulence factor	4
24	<i>Brucella virulence factor disposition</i>	http://purl.obolibrary.org/obo/IDO_0100116	virulence factor disposition	4
25	<i>establishment of Brucella intracellular localization</i>	http://purl.obolibrary.org/obo/IDO_0100614	establishment of localization in cell	4
26	<i>Brucella's entry into macrophages</i>	http://purl.obolibrary.org/obo/IDO_0100610	entry of bacterium into host cell	4
27	<i>process of Brucella's survival in</i>	http://purl.obolibrary.org/obo/IDO_0100613	biological_process	4

	<i>macrophages</i>			
28	<i>process of Brucella's replication in macrophages</i>	http://purl.obolibrary.org/obo/IDO_0100612	biological_process	4
29	<i>process of establishing Brucella infection in macrophage</i>	http://purl.obolibrary.org/obo/IDO_0100732	process of establishing Brucella infection	4
30	<i>Brucella VirB1</i>	http://purl.obolibrary.org/obo/IDO_0100389	<i>Brucella</i> protein	4
31	<i>Brucella protein virulence factor</i>	http://purl.obolibrary.org/obo/IDO_0100425	<i>Brucella</i> virulence factor	4
32	<i>Brucellosis diagnosis</i>	http://purl.obolibrary.org/obo/IDO_0100104	diagnosis	5
33	<i>PCR assay for detecting Brucella omp-2</i>	http://purl.obolibrary.org/obo/IDO_0100568	PCR assay for brucellosis	5
34	<i>omp-2 forward primer</i>	http://purl.obolibrary.org/obo/IDO_0100067	omp-2 primer	5
35	<i>omp-2 reverse primer</i>	http://purl.obolibrary.org/obo/IDO_0100068	omp-2 primer	5
36	<i>DNA primer sequence data</i>	http://purl.obolibrary.org/obo/IDO_0100157	DNA sequence data	5
37	<i>PCR product sequence data</i>	http://purl.obolibrary.org/obo/IDO_0100603	DNA sequence data	5
38	<i>omp-2 gene</i>	http://purl.obolibrary.org/obo/IDO_0100647	<i>Brucella</i> spp. protein coding gene	5
39	<i>B.abortus genome</i>	http://purl.obolibrary.org/obo/IDO_0100702	genome	5
40	<i>omp-2 gene sequence data</i>	http://purl.obolibrary.org/obo/IDO_0100618	DNA sequence data	5
41	<i>B.abortus genome sequence data</i>	http://purl.obolibrary.org/obo/IDO_0100616	DNA sequence data	5
42	<i>PCR amplification of 193bp region in omp-2 gene</i>	http://purl.obolibrary.org/obo/IDO_0100107	polymerase chain reaction	5
43	<i>product of PCR amplification of 193 bp in Brucella omp-2</i>	http://purl.obolibrary.org/obo/IDO_0100531	PCR product of brucellosis test	5
44	<i>DNA extracted from brucellosis human patient derived specimen</i>	http://purl.obolibrary.org/obo/IDO_0100676	brucellosis patient specimen	5
45	<i>laboratory finding of Brucella omp-2 detection</i>	http://purl.obolibrary.org/obo/IDO_0100532	laboratory finding	5
46	<i>brucellosis diagnostic process</i>	http://purl.obolibrary.org/obo/IDO_0100705	diagnostic process	5
47	<i>clinical manifestation of brucellosis</i>	http://purl.obolibrary.org/obo/IDO_0100087	clinical manifestation of brucellosis	5
48	<i>brucellosis eradication</i>	http://purl.obolibrary.org/obo/IDO_0100176	eradication of infectious disease	
49	<i>Brucella accidental release</i>	http://purl.obolibrary.org/obo/IDO_0100169	accidental release	
50	<i>brucellosis free site</i>	http://purl.obolibrary.org/obo/IDO_0100536	infectious disease free site	
51	<i>brucellosis non-endemic site</i>	http://purl.obolibrary.org/obo/IDO_0100538	infectious disease non-endemic site	
52	<i>brucellosis surveillance</i>	http://purl.obolibrary.org/obo/IDO_0100658	infectious disease surveillance	

53	<i>aerosolized Brucella</i>	http://purl.obolibrary.org/obo/IDO_0100469	<i>Brucella</i>	6
54	<i>Brucella intentional release</i>	http://purl.obolibrary.org/obo/IDO_0100169	intentional release	6
55	<i>Brucella aerosolization</i>	http://purl.obolibrary.org/obo/IDO_0100470	planned process	6
56	<i>bioterrorism agent role</i>	http://purl.obolibrary.org/obo/IDO_0100733	role	6
57	<i>bleach disinfection of aerosolized Brucella</i>	http://purl.obolibrary.org/obo/IDO_0100474	disinfection of aerosolized <i>Brucella</i>	6
58	<i>disinfectant role</i>	http://purl.obolibrary.org/obo/IDO_0000432	role	6
59	<i>Brucella protective antigen role</i>	http://purl.obolibrary.org/obo/IDO_0100119	protective antigen role	7
60	<i>Brucella-specific protective T-cell mediated immune response</i>	http://purl.obolibrary.org/obo/IDO_010740	<i>Brucella</i> protective antigen stimulated acquired immune response	7
61	<i>Brucella protective antigen stimulated acquired immune response</i>	http://purl.obolibrary.org/obo/IDO_010740	adaptive immune response	7
62	<i>Brucella abortus SodC</i>	http://purl.obolibrary.org/obo/IDO_010734	<i>Brucella</i> protein	7
63	<i>B.abortus sodC gene</i>	http://purl.obolibrary.org/obo/IDO_010736	<i>Brucella</i> protein coding gene	7
64	<i>B.abortus DNA vaccine pcDNA-SOD</i>	http://purl.obolibrary.org/obo/VO_0000018	<i>Brucella abortus</i> vaccine	7
65	<i>WHO standard treatment for human brucellosis in adults and children eight years of age and older</i>	http://purl.obolibrary.org/obo/IDO_0100185	WHO recommended human brucellosis treatment	8
66	<i>WHO standard doxycycline treatment for human brucellosis</i>	http://purl.obolibrary.org/obo/IDO_0100527	brucellosis treatment	8
67	<i>WHO standard streptomycin treatment for human brucellosis</i>	http://purl.obolibrary.org/obo/IDO_0100528	brucellosis treatment	8
68	<i>doxycycline</i>	http://purl.obolibrary.org/obo/IDO_0100113	antibiotic	8
69	<i>continuous treatment duration</i>	http://purl.obolibrary.org/obo/IDO_0100620	connected temporal region	8
70	<i>administering doxycycline 100mg twice a day</i>	http://purl.obolibrary.org/obo/IDO_0100734	treatment	8
71	<i>administering streptomycin 1g a day</i>	http://purl.obolibrary.org/obo/IDO_0100735	treatment	8

Table 2. Relations used in the manuscript:

#	Property terms	Sources and term IDs	Figures
1	bearer_of	http://purl.org/obo/owl/OBO_REL#bearer_of	2,7
2	realized_by	http://purl.org/obo/owl/OBO_REL#realized_by	2,4,7
3	role_of	http://www.obofoundry.org/ro/ro.owl#role_of	2
4	has_specified_output	http://purl.obolibrary.org/obo/OBI_0000299	2,5
5	is_specified_input_of	http://purl.obolibrary.org/obo/OBI_0000295	2,5,6
6	has_function	http://purl.obolibrary.org/obo/OBI_0000306	2
7	has_quality	http://purl.org/obo/owl/OBO_REL#has_quality	3,8
8	has_part	http://www.obofoundry.org/ro/ro.owl#has_part	3,4,5,6,8
9	has_scattered_temporal_region	http://purl.obolibrary.org/obo/IDO_0100626	3
10	participates_in	http://www.obofoundry.org/ro/ro.owl#participates_in	4,8
11	has_disposition	http://purl.org/obo/owl/OBO_REL#has_disposition	4
12	has_role	http://purl.obolibrary.org/obo/OBI_0000316	6
13	has_specified_input	http://purl.obolibrary.org/obo/OBI_0000293	6,8
14	is_about	http://purl.obolibrary.org/obo/IAO_0000136	5
15	inherits_in	http://purl.org/obo/owl/OBO_REL#inherits_in	5
16	achieves_planned_objective	http://purl.obolibrary.org/obo/OBI_0000417	5
17	part_of	http://www.obofoundry.org/ro/ro.owl#part_of	5,7
18	integral_part_of	http://www.obofoundry.org/ro/ro.owl#integral_part_of	8
19	coded_by	http://purl.obolibrary.org/obo/IDO_0100541	7
20	has_temporal_interval	http://purl.obolibrary.org/obo/IDO_0100621	8