ISA Section	Label	Class	Datatype	Ontology source	In vivo	In vitro	Ex vivo
Investigation							
Study Description							
	Study Identifier		Unique ID		X	X	X
	Study Title		String		X	X	X
	Study Description		String		X	X	X
	Study Grant Number		String		X	X	X
	Study Funding Agency		String		X	X	X
Study Design Descriptors							
	Study Design Type		Ontology	EFO	X	X	X
Study Publications							
	Pubmed ID		string		X	X	X
	Publication DOI		string		X	X	X
	Author list		string		X	X	X
	Publication title		string		X	X	X
	Publication status		string		X	X	X
Study Contacts							
	Last name		string		X	X	X
	First name		string		X	X	X
	Middle Initials		string		X	X	X
	Email		string		X	X	X
	Phone		string		X	X	X
	Fax		string		X	X	X
	Address		string		X	X	X
	Affiliation		string		X	X	X
	Role		string		X	X	X
	ORCID		string		X	X	X
Study							
Animal Details							
	Organism	Characteristic	Ontology	NCBI Taxonomy	X	X	X
	Strain	Characteristic	Ontology	Rat Strain Ontology (RS); EFO	X		X
	Cell line	Characteristic	Ontology	Cell Culture Ontology (CCONT)		X	
	Sex	Characteristic	Ontology	EFO	X		X
	Study start age	Parameter	Number		X		X
	Study end age	Parameter	Number		X		X
	Age Unit	Characteristic	Ontology	EFO	X		X
Housing conditions							
	Average Vivarium Temp	Parameter	Number		X		X
	Temperature Unit	Characteristic	Ontology	EFO	X		X
	Average Vivarium Humi	Parameter	Number		X		X
	Humidity Unit	Characteristic	Ontology	EFO	X		X
	Vivarium Light Cycle	Parameter	String		X		X
	Cage Type	Parameter	String		X		X
	Bedding Type	Parameter	String		X		X
	Water Type	Parameter	String		X		X
	Feed Type	Parameter	String; Attachment		X		X
Exposure							
	Toxic Substance	Characteristic	Ontology	CHEBI	X	X	X
	Vehicle Substance	Characteristic	Ontology	CHEBI	X	X	X
	Administration Interval	Parameter	Number		X	X	X
	Administration Interval U	Characteristic	Ontology	EFO	X	X	X
	Number of Administratic	Parameter	Number		X	X	X
	Administration Route	Parameter	String		X	X	X
	Dose	Factor	Number		X	oncentrat	X
	Dose Unit	Characteristic	Ontology	EFO	X	oncentrat	X
	Time-point	Factor	Number		X	X	X
	Time-point Unit	Characteristic	Ontology	EFO	X	X	X
	Chemical Source	Parameter	String		X	X	X
	Chemical Catalog Numb	Parameter	String		X	X	X
	Chemical Purity	Parameter	String; Attachment		X	X	X
Cell Culture Conditions (in progress)							
	Incubation temperature					X	X
	Gas composition					X	X

Humidity		X	X
Humidity Unit		X	X
Culture dish type		X	X
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