

ISA Section	Label	Class	Datatype	Ontology source	has units (ontology)	Description	In vivo	In vitro	Ex vivo
Investigation									
<i>Study Description</i>									
	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
<i>Study Design Descriptors</i>									
	Study Design Type		Ontology	EFO			X	X	X
<i>Study Publications</i>									
	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
<i>Study Contacts</i>									
	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									
<i>Animal details</i>									
	Organism	Characteristic	Ontology	NCBI Taxonomy		Provide taxonomic information associated to the source biological material. This should be included as an NCBI_TAXON ID unless not found within NCBI.	X	X	X
	Strain	Characteristic	Ontology	Rat Strain Ontology (RS); EFO		Provide strain information associated to the source biological material.	X		X
	Cell line	Characteristic	Ontology	Cell Culture Ontology (CCONT)				X	
	Sex	Characteristic	Ontology	EFO		Sex of the study organism. Must be one of the following: FEMALE, MALE	X		X
	Study start age	Parameter	Number		Y (EFO)	Age of the organism at the time the first dose was administered.	X		X
	Study end age	Parameter	Number		Y (EFO)	Age of the organism when the terminal sample was collected.	X		X
<i>Housing conditions</i>									
	Average Vivarium Temperature	Parameter	Number		Y (EFO)	Average vivarium temperature during the study	X		X
	Average Vivarium Humidity	Parameter	Number		Y (EFO)	Average vivarium humidity during the study	X		X
	Vivarium Light Cycle	Parameter	String			Vivarium light cycle for the study period defined as light:dark formatted as number:number (e.g. 12:12, 03:21, ...)	X		X
	Cage Type	Parameter	String			Define the type of caging used for the study period	X		X
	Bedding Type	Parameter	String			Define the type of bedding used for the study period	X		X
	Water Type	Parameter	String			Define the water source for the study period	X		X
<i>Diet exposure</i>									
	Feed Name	Factor	String			Descriptive name of the diet	X		X
	Feed description	Parameter	String			Description of feed including, but not limited to, macronutrient composition	X		X
	Feed source	Parameter	String			Vendor of the feed tested if commercially available	X		X
	Feed catalog number	Parameter	String			Catalog number of the feed if commercially available.			

Substance exposure								
Substance Name	Factor	String		CHEBI; FOODON	Descriptive name of the toxic substance or mixture Identifier(s) of the toxic substance. For a list of substances in a mixture use a semi-colon (;) between identifier.	X	X	X
Substance	Characteristic	Ontology						
Vehicle Substance	Characteristic	Ontology		CHEBI	Name of the vehicle compound used to deliver the toxic substance or mixture.	X	X	X
Administration Interval	Parameter	Number		Y (EFO)	Amount of time between subsequent doses when multiple doses are administered over a period of time.	X	X	X
Number of Administrations	Parameter	Number			The number of doses administered when multiple doses are given over a period of time.	X	X	X
Administration Route	Parameter	String		Y (EFO)	The delivery mechanism for the toxicant tested. Must be one of the following: GAVAGE,INTRAPERITONEAL,RETRO-ORBITAL,TAIL VEIN INJECTION,DIET,WATER,DOUGH PILL	X	X	X
Dose	Factor	Number			Dose of the toxic substance	X	concentrati	X
Chemical Source	Parameter	String			Vendor of the toxic substance tested if commercially available	X	X	X
Chemical Catalog Number	Parameter	String			Catalog number of the toxicant if commercially available.	X	X	X
Chemical Purity	Parameter	String; Attachment			Chemical purity of the toxic substance. A sample information sheet from the vendor can be attached.	X	X	X
Exposure details								
Time-point	Factor	Number		Y (EFO)	Terminal time-point.	X	X	X
Termination Conditions								
Fasting duration	Parameter	Number		Y (EFO)	Amount of time animals were fasted prior to euthanasia.	X		X
Euthanasia method	Parameter	String			Method used for euthanasia.	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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