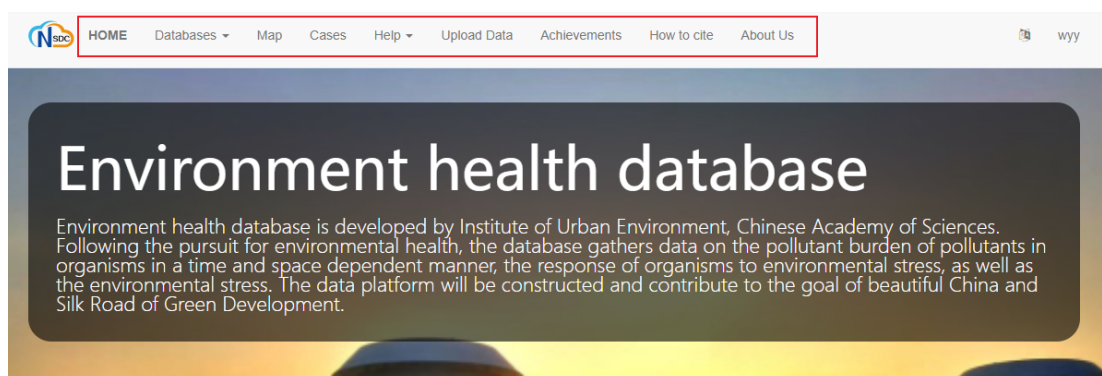


# Environmental Health Database

Environment health database is developed by Institute of Urban Environment, Chinese Academy of Sciences. Following the pursuit for environmental health, the database gathers data on the pollutant burden of pollutants in organisms in a time and space dependent manner, the response of organisms to environmental stress, as well as the environmental stress. The data platform will be constructed and contribute to the goal of beautiful China and Silk Road of Green Development. This database mainly includes three sub-library, through the navigation bar can be in the database home page, fast access to the database sub-library, service cases, help and other content.



1. Pollutants in organisms database
2. Antibiotic resistance gene abundance database
3. EV-mediated communication database

## Pollutants in organisms database

The organism's pollution database focuses on the biological pollutant load data in the environment, and takes multi-region, multi-species and multi-pollutant as the main clues to establish the database. Open the page, you can switch between different subsets of data through the upper-left button.

# Species-Pollutant

cite: Liu X B, Lin C, Wu Y Y, et al. Dataset-based assessment of heavy metal contamination in freshwater fishes and their health risks[J]. Environmental Science and Pollution Research, 2022, 29(33): 49985-49997.

Species-Pollutant ▾

- Pollutants
- Species
- References

🏠
☰

	Pollutants	Species	Locality	Time
<a href="#">Details</a>	全氟癸烷磺酸 PFDS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟辛烷磺酸盐 PFOS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟己烷磺酸 PFHxS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟丁烷磺酸 PFBS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十四酸 PFTeDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十三烷酸 PFTrDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十二酸 PFDoDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十一酸 PFUnDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟癸酸 PFDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟壬酸 PFNA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015

Showing 1 to 10 of 119925 rows 10 ▾ rows per page

< 1 2 3 4 5 ... 11993 >

Click on the table to view details of the current record entry, including: Pollutants, species, references, sampling locations, load levels and other information.

	Pollutants	Species	Locality	Time
<a href="#">Details</a>	全氟癸烷磺酸 PFDS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟辛烷磺酸盐 PFOS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟己烷磺酸 PFHxS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟丁烷磺酸 PFBS	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十四酸 PFTeDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十三烷酸 PFTrDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十二酸 PFDoDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟十一酸 PFUnDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟癸酸 PFDA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015
<a href="#">Details</a>	全氟壬酸 PFNA	<i>Planiliza carinata</i> 梭梭 (前鳞梭、紫色) [Keeled mullet, Liza carinata, Liza carinatus]	中国(China) - 福建省(fujian) - 九龙江(jiulongjiang)	2015

Click on pollutants in the details page to view information about pollutants.

Pollutant info		Species info		Reference		Chemical info		
<b>Pollutant</b>	全氟癸烷磺酸 PFDS	<b>Latin name</b>	<i>Planiliza carinata</i>	<b>Author</b>	Siquan Wang	<b>Chinese name</b>	全氟癸烷磺酸	
<hr/>			<b>Chinese name</b>	梭鲈	<b>Year</b>	2021	<b>English name</b>	PFDS
<b>Species info</b>		<b>English name</b>	<i>Keeled mullet, Liza carinata, Liza carinatus</i>	<b>Title</b>	<i>Perfluoroalkyl substances in water, sediment, and fish from a subtropical river of China: Environmental behaviors and potential risk</i>	<b>Full English name</b>	Perfluorodecane sulfonic acid	
		<b>Common name</b>	前鳞鲈、紫鱼			<b>CAS number</b>	335-77-3	
<hr/>						<b>Molecular formula</b>	C10HF21O3S	
<b>Reference</b>						<b>PubChem</b>	67636	
						<b>Molecular weight</b>	600.15	
						<b>Dates</b>		
						<b>Melting point</b>		
						<b>Boiling point</b>		
						<b>Carcinogenicity</b>		
						<b>Exposure routes</b>		
						<b>Diseases</b>		
						<b>Health hazards</b>		
						<b>Ecotoxicity values</b>		
						<b>Categories</b>		

In addition to the tabular format, we also provide a way to retrieve data on a map. In the left-hand column of the page, you can select a species or a contaminant, and in the search field, you can enter a specific species or contaminant to display all records on the map, the map area on the right is free to zoom in or out to see the location.



The database can provide data support for pollutant ecological risk assessment and biodiversity loss.

## Antibiotic resistance gene abundance database

The database of antibiotic resistance gene abundances integrates the data of antibiotic resistance genes from various habitats with the theme of spatio-temporal distribution of antibiotic resistance genes in the environment.

On the page, you can choose to display antibiotic resistance gene abundance data or removable genetic element abundance data. At the top of the page is a multi-information parameter search function to help users search more quickly and accurately to the desired data. There is a download link below the search box, users can click to download.

# Antibiotic Resistance Gene Abundance Database

cite: Xu W, Pan Z, Wu Y, et al. A database on the abundance of environmental antibiotic resistance genes[J]. Scientific Data, 2024, 11(1): 250.

ARG Abundance ▾

Search

**ARG Subtype**

**ARG Mechanism**

**Habitat**

**Date**

**ARG Type**

**ARG health risk**

**Location**

Download

The data is displayed in a table at the bottom of the page. Each record is presented horizontally and vertically, and users can choose according to their preferences. The data include genetic information, sampling information, published literature and abundance data. Users can choose the part of the table or the complete information according to their needs.

Gene ID	Original Gene Name	Subtype	Type	Mechanism	Health Risk	Relative Abundance (copies/16S rRNA gene)	
2	aac(3)-Ia	aac(3)-Ia	Aminoglycoside	Antibiotic deactivation	IV	0	
3	aac(3)-Ib	aac(3)-Ib	Aminoglycoside	Antibiotic deactivation	IV	0	
4	aacC2	aac(3)-IIc	Aminoglycoside	Antibiotic deactivation	-	0.000643201	138931.3821

- Gene ID
- Original Gene Name
- Subtype
- Type
- Mechanism
- Health Risk
- Relative Abundance (copies/16S rRNA gene)

The database can provide data support for global environmental antibiotic resistance gene research.

## EV-mediated communication database

Extracellular vesicle is a kind of nano-particles which can transfer RNA, protein and metabolite between organisms. It can mediate environmental stress and response of organism.

When you open the home page, you can see four search boxes at the top that allow multiple filters to help users search accurately.

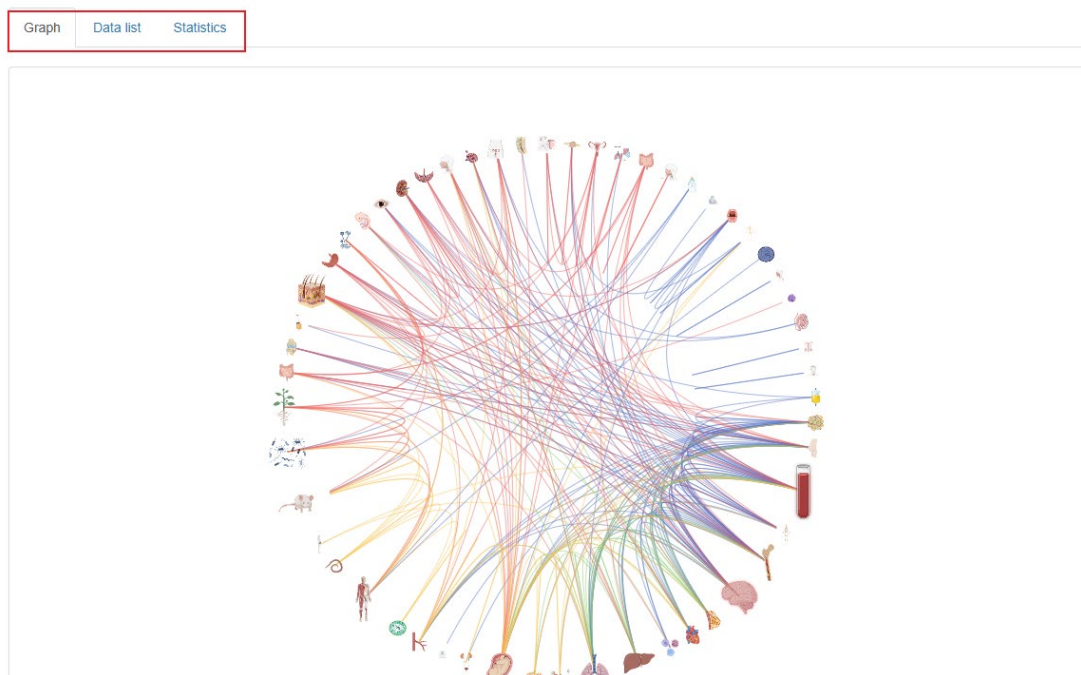
## EV-COMM (EV-mediated communication)

cite: Chen J, Lin J J, Wang W, et al. EV-COMM: A database of interspecies and intercellular interactions mediated by extracellular vesicles[J]. Journal of extracellular vesicles, 2024, 13(4): e12442.

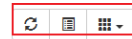
Search

<b>Interaction level</b>	Interaction level ▾	<b>Cargo Type</b>	Cargo Type ▾
<b>Donor source</b>	Please select inter level first ▾	<b>Recipient source</b>	Please select inter level first ▾

The results display box below includes an interaction diagram, a data table, and a data graph.



Select one of the results, and the details page displays key information about the interaction, ev types, isolation methods, identification methods, donor and recipient cells belong to the tissue or organ and the resulting biological effects and other information.



Number	Donor	Donor source	Recipient	Recipient source	Specific functional molecules	Cargo Type	Interaction level	Detail:
1	Human adipose-derived stem cells (ADSCs)	Adipose tissue	Naive human adipocytes	Adipose tissue	/	/	Intercellular interaction	<a href="#">Details</a>
2	Murine adipose-derived regenerative cells (ADRCs)	Adipose tissue	Murine endothelial cells (ECs)	Pancreas	miR-21	RNA	Intercellular interaction	<a href="#">Details</a>
3	Murine adipose-derived regenerative cells (ADRCs)	Adipose tissue	Murine hind limb ischemia model	Vasculum	miR-21	RNA	Intercellular interaction	<a href="#">Details</a>
4	Murine adipose-derived regenerative cells (ADRCs)	Adipose tissue	Murine endothelial cells (ECs)	Pancreas	miR-322	RNA	Intercellular interaction	<a href="#">Details</a>

<b>Cell Context</b>	Intermittent hypoxia (IH)	
<b>Diseases</b>		
<b>Interaction Type</b>	Human cell to cell	
<b>Donor</b>	Human adipose-derived stem cells (ADSCs)	
<b>Donor source</b>	Adipose tissue	
<b>Recipient</b>	Naive human adipocytes	
<b>Recipient source</b>	Adipose tissue	
<b>EV subtypes studied</b>	EVs	
<b>EV Isolation Methods</b>	Total Exosome Isolation kit (Life Technologies, USA)	
<b>EV Characterization</b>	<b>Morphologies</b>	TEM
	<b>Particle Size</b>	NTA
	<b>Western blots of markers</b>	Done
<b>Cargoes</b>	<b>Specific functional molecules</b>	/
	<b>Cargo Type</b>	/
<b>Effect</b>	<b>Molecular level</b>	pAKT/AKT
	<b>Cellular and individual level</b>	EVs-derived from HMVEC-d, THP1 macrophages M0 and human adipocytes exposed to IH disrupt the naive endothelial barrier. Contrary to our initial assumptions, EVs secreted by HMVEC-d and THP1 macrophages M0 exposed to IH promoted an anti-inflammatory profile, with other cells inducing a mixed effect. Furthermore, the ratio of pAKT/AKT as indicator of insulin sensitivity remained unaltered after exposure to any of the EVs, irrespective of whether the cells had been exposed to IH or RA.
<b>Reference</b>	<a href="#">34070558</a>	
<b>Interaction level</b>	Intercellular interaction	

The database is the first comprehensive database focusing on EV-mediated interactions between donors and recipient cells or species and is a convenient tool for exploring and validating interactions.