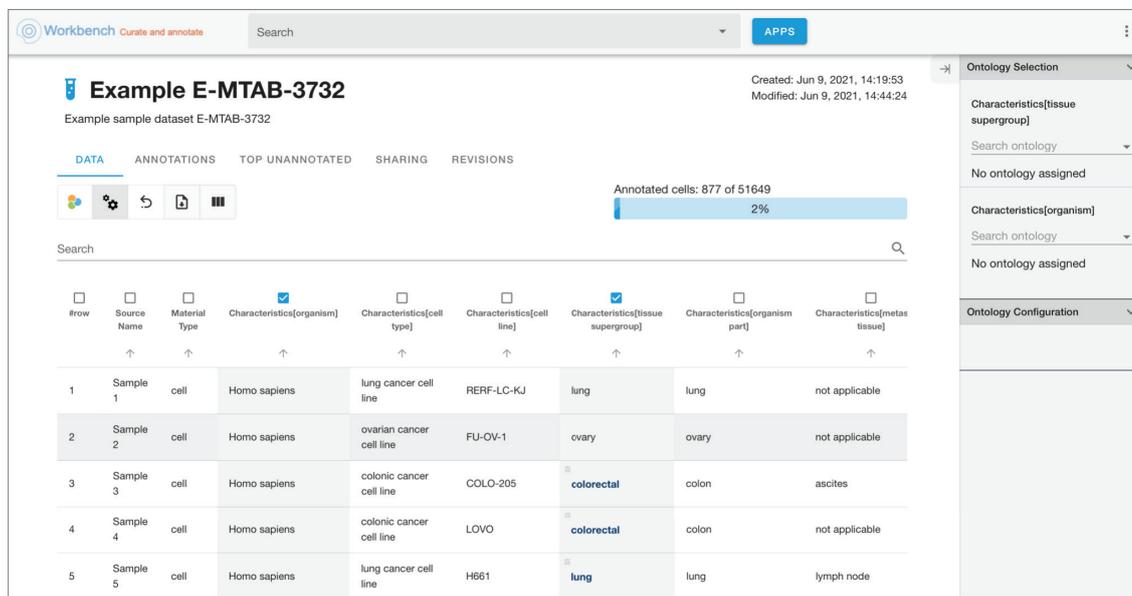


Workbench Datasheet

Automated Data Cleansing and Standardization



The screenshot shows the SciBite Workbench interface for a dataset named 'Example E-MTAB-3732'. The interface includes a search bar, a 'DATA' tab, and a table of data. The table has columns for 'row', 'Source Name', 'Material Type', and several 'Characteristics' columns. A progress bar indicates 'Annotated cells: 877 of 51649' (2%). On the right, there is an 'Ontology Selection' panel with dropdown menus for selecting ontologies for different characteristics.

row	Source Name	Material Type	Characteristics[organism]	Characteristics[cell type]	Characteristics[cell line]	Characteristics[tissue supergroup]	Characteristics[organism part]	Characteristics[metas tissue]
1	Sample 1	cell	Homo sapiens	lung cancer cell line	RERF-LC-KJ	lung	lung	not applicable
2	Sample 2	cell	Homo sapiens	ovarian cancer cell line	FU-OV-1	ovary	ovary	not applicable
3	Sample 3	cell	Homo sapiens	colonic cancer cell line	COLO-205	colorectal	colon	ascites
4	Sample 4	cell	Homo sapiens	colonic cancer cell line	LOVO	colorectal	colon	not applicable
5	Sample 5	cell	Homo sapiens	lung cancer cell line	H661	lung	lung	lymph node

Figure 1. Simple user interface and smart spreadsheet-like functionality for loading, semantically-annotating and cleaning tabular data.

- ♦ **INTUITIVE** – Interactive sheet for fast and simple curation of data with terminology standards
- ♦ **AUTOMATED** – Reproducible annotations using vocabs or public/private ontologies
- ♦ **REPEATABLE** – Store annotations and share rules to reduce the time to curate new data.

Take the effort out of tabular data curation

Recording data can pose organizations with numerous challenges. Individuals and groups may use idiomatic or historic nomenclature that limits data re-usability, and information can be siloed, restricting transparency and collaboration. Added to this, the process of integrating data from multiple sources repetitively, can be time-consuming and prone to errors.

SciBite has created Workbench, a simple visual interface for curating term lists, custom dictionaries, and semi-structured datasets to your terminology standard of choice. Powered by SciBite's TERMite and VOCab technologies,

SciBite Workbench serves to support organizations that are adopting a FAIR (Findable, Accessible, Interoperable, Reusable) approach to data management. A critical component to making data more FAIR is to enable data interoperability through aligning data to shared terminology and ontological standards.

Cleaning datasets and aligning them to standards can be an arduous task, often requiring specific expertise in both the subject domain and the available standards. Scientific data curators are often the unsung heroes within an organization, without whom, much of the downstream integration and analysis would not be possible. Workbench aims to support scientists by streamlining the curation process through a simple and intuitive user interface. An important aspect of Workbench is the ability to reuse and repeat previously seen curation, saving time, and allowing teams to focus on defining and expanding the interoperability of their data.

In Workbench, data is made **findable** for both humans and computers; **accessible** to authorized users; **interoperable** with other applications or workflows; and **reusable** alongside other data and in downstream processes (see figure 2).

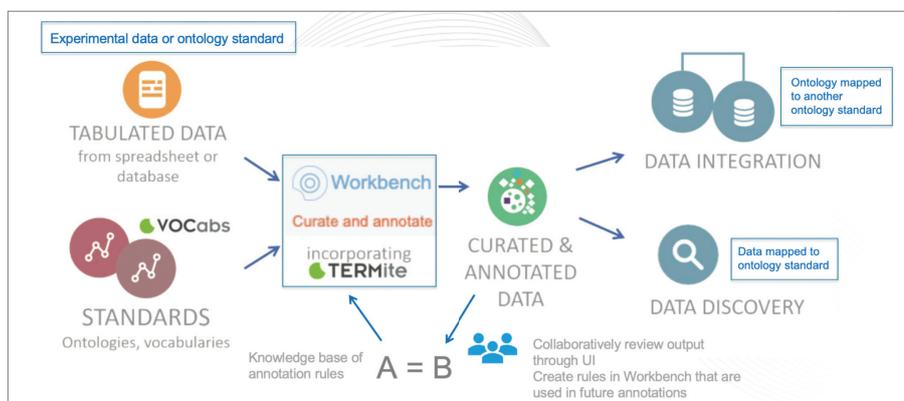


Figure 2. Workbench workflow – Within just a few clicks, Workbench will tag columnar entities with your chosen vocabulary or ontology and assimilate powerful metadata.

Accurately curate complex data

Annotate data from selected columns with your chosen vocabulary or ontology, including SciBite's VOCabs – a library of manually curated vocabularies enriched with >20 million synonyms.

Dealing with 'messy' data

Workbench includes fuzzy-matching logic to handle variations in spelling and typographic errors. For data riddled with internal codes or proprietary terms, you can use Workbench to map them to your chosen ontology terms or vocabulary with 'annotation rules' eliminating the error-prone and monotonous process of editing. Workbench promotes replicability by storing these annotation rules, which can be re-run during subsequent data processing jobs (see Figure 3).

Header context	Cell value	Annotation label
gender/sex	1 exact	Female Material property
gender/sex	F exact	Female Material property
Human Cell Line	HEK starts_with	HEK293 Cell
species	Huma exact	Humans Eukaryote

The data cell value you wish to annotate

The terms Workbench will annotate your data to

Figure 3. Example of the types of annotation rules that can be replayed over your dataset.

UI vs API. Why not use both?

Workbench comes with a powerful REST API that automates the same core functions from the user interface (UI) in a typical workflow, quickly processing a much larger volume of data with ease. All API results can be accessed via the UI, which is ideal for spot-checking and quality control.

Easy data sharing and export

Workbench has built-in sharing functionalities for collaborative curation projects. As a data owner, you can create a group where you can invite other colleagues to view or edit your annotations, see Figure 4. Annotated data can be exported in excel for use with many 3rd party tools.

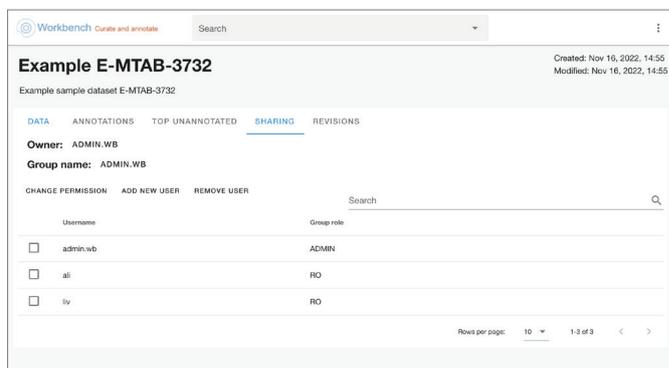


Figure 4. Add colleagues and collaborate on annotation tasks.

About SciBite

SciBite is an award-winning semantic software company offering an ontology-led approach to transforming unstructured content into machine-readable clean data. Supporting the top 20 pharma with use cases across life sciences, SciBite empowers customers with a suite of fast, flexible, deployable API technologies, making it a critical component in scientific data-led strategies. Contact us to find out how we can help you get more from your data.

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