

Emtree Vocab Datasheet

Context-aware computational search

Scientists today are confronted with overwhelming volumes and sources of data to analyse. Whilst computational searching is possible, this quickly proves to be inadequate when tackling the deluge of scientific text with variations of spellings and synonyms.

To help address this problem, SciBite has created a series of optimized vocabularies that enable computers to uncover relevant information. Based on public ontologies or reference databases from a wide range of topics, our curation team transform and further enrich these ontologies into specialized vocabularies which are consumed by our entity extraction engine, TERMite. These capabilities provide our customers with the ability to identify and extract relevant scientific information from millions of records at the click of a button.

Enrich your data with Emtree

SciBite is proud to offer Elsevier's Emtree thesauri as a SciBite VOCabulary to be used alongside our existing VOCabs. With Emtree, users can index their own sources using these standards via SciBite's proven technology, in pursuit of FAIR, harmonized data.

- ♦ **COMPREHENSIVE** – Unrivalled coverage of drug, disease and medical device terminology
- ♦ **CONTEXT-AWARE** – Enriched semantic content ensures maximum capture of subject area and context
- ♦ **GOLD STANDARD** – Access terms registered with regulatory bodies including WHO, EMA and FDA.

Emtree VOCab pack

Originally created by subject matter experts for the biomedical and life science community, Emtree includes 90,000 drug, disease, medical device and essential life science entities. These thesauri are further enriched and optimized using our proprietary tools and are manually curated with rules and additional vocabularies to create the Emtree VOCab pack with 2.5 million synonyms, which when coupled with our entity extraction engine, TERMite, can index text-based documents to generate a rich, annotated dataset that aligns to Emtree terminology. The Emtree VOCab pack includes a full version of Emtree, as well as separate medical device and combination drug vocabularies that incorporates additional SciBite content.

The Emtree vocabulary includes:

- All drug generic names described by the FDA and EMA
- All drug international non-proprietary names (INNs) described by the WHO
- Drug trade names for most major pharmaceutical companies
- Medical device trade and general names, plus medical procedures
- Global medical device nomenclature (GMDN) names used by the FDA
- Diseases, organisms, biological functions, and medical and biological parameters
- Terms for traditional Chinese medicine
- All terms from the MEDLINE thesaurus MeSH

Established in 1947, Emtree continues to be updated three times a year with new terms included primarily on the frequency of use as candidate terms. Emtree's comprehensive hierarchy provides an intuitive context to the relationship of terms within the VOCab and allows users to filter results with any branch of the thesauri, as shown in Figure 1.

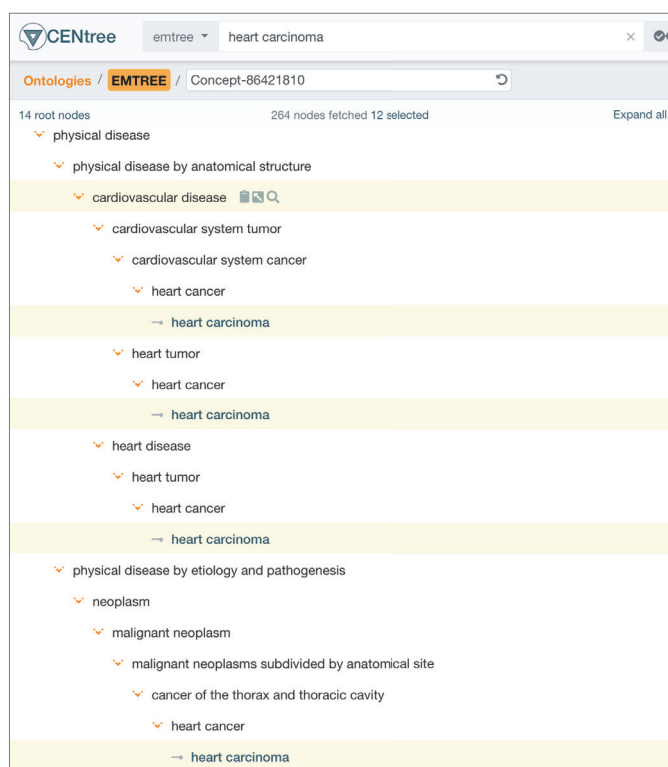


Figure 1. Emtree comprehensive hierarchical structure.

Deploy Emtree in your use cases

As with all SciBite VOCabs, the Emtree module can be used on its own or in conjunction with our other VOCabularies depending on your project requirements. Emtree can support a host of use cases, as described in Table 1.

Use case	Description
Clean data entry	Create application ontologies from Emtree thesauri (drug, compounds, disease etc.) for use in LIMS or ELNs
Search	Disambiguate biomedical entities in clinical literature, company websites, press releases etc. for competitive intelligence analysis
Current Awareness	Deliver integrated information from search to keep workgroups up-to-date with their field
Knowledge graph	Connect compounds with their activity on a target or role for drug repurposing or to identify potential adverse events
Pharmacovigilance	(Semi-)automate monitoring of products for safety signals via search i.e., track drug-disease relations or drug-drug interactions
Regulatory submissions	Include terminology used by major regulatory bodies like the EMA and FDA
Medical devices	Perform clinical efficacy investigations of medical devices using Emtree's extensive lists of medical devices (e.g., endoscopes, catheters, prostheses)
Clinical studies	PICO (Patient/ Problem, Intervention, Comparison and Outcome) effectiveness studies, as well as post-market surveillance
Model	Create entity recognition AI models

Table 1. How Emtree can be deployed in your use cases

Emtree can be used to annotate biomedical hits in unstructured data sources using TERMite, SciBite's named entity recognition tool (see Figure 2).

| Summary

Posterior Reversible Encephalopathy Syndrome in a Patient With SARS-CoV-2 Infection Treated With Tocilizumab

Abstract

As the world has struggled to adapt to the coronavirus disease (COVID-19) pandemic, new evidence has emerged suggesting that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection may manifest with a wide variety of neurologic symptoms. We present the case of a 70-year-old patient hospitalized for COVID-19 related pneumonia who was treated with off-label interleukin (IL)-6 inhibitor tocilizumab and eventually developed prolonged delirium. MRI findings were consistent with posterior reversible encephalopathy syndrome (PRES). PRES was felt to be from SARS-CoV-2 infection, tocilizumab, or a combination. The patient received symptomatic treatment without success. These findings are consistent with few other recent reports, which have chronicled PRES findings in patients with SARS-CoV-2 infections. However, this is only the second example of PRES in a COVID-19 patient treated with tocilizumab. While cases of PRES have been noted to occur with other infectious diseases, clinicians should be aware of the association with SARS-CoV-2 infection and tocilizumab therapy, particularly when considering tocilizumab treatment outside its approved indication. Future research efforts are needed to establish evidence-based guidelines for the management of these patients.

Keywords: case report, covid-19, pres, sars-cov-2, tocilizumab.

TERMite Hits

Poor quality (ambiguous) hits shown in red/grey and should be treated with much caution, often users filter these out of their results as they are of low accuracy.

Type	Name	ID	Hit Synonyms
EMTREE	off label drug use	Concept-86477517	off-label
EMTREE	research	Concept-86507335	research
EMTREE	therapy	Concept-86530752	therapy
EMTREE	management	Concept-86448638	management
EMTREE	hospital patient	Concept-86425829	hospitalized; patient; patients; Patient; in patients
EMTREE	nuclear magnetic resonance imaging	Concept-86475593	MRI
EMTREE	infection	Concept-86431896	infectious diseases
EMTREE	neurologic disease	Concept-86471895	neurologic symptoms
EMTREE	practice guideline	Concept-86497129	guidelines
EMTREE	case report	Concept-86368680	case report
EMTREE	evidence based practice	Concept-86405673	evidence-based
EMTREE	tocilizumab	Concept-86534084	tocilizumab; Tocilizumab
EMTREE	Severe acute respiratory syndrome coronavirus 2	Concept-526912292	severe acute respiratory syndrome coronavirus 2; sars-cov-2
EMTREE	palliative therapy	Concept-86482204	symptomatic treatment
EMTREE	cytokine	Concept-86385547	interleukin
EMTREE	delirium	Concept-86387689	delirium
EMTREE	coronavirus disease 2019	Concept-527986770	COVID-19; SARS-CoV-2 infection; covid-19; SARS-CoV-2 Infection; SARS-CoV-2 infections; coronavirus disease (COVID-19); SARS-CoV-2 Infection
EMTREE	posterior reversible encephalopathy syndrome	Concept-86496645	pres; PRES; posterior reversible encephalopathy syndrome; Posterior Reversible Encephalopathy Syndrome
EMTREE	association	Concept-86351267	association
EMTREE	clinician	Concept-90106662	clinicians
EMTREE	pneumonia	Concept-86493979	pneumonia
EMTREE	clinical observation	Concept-86376761	findings
EMTREE	pandemic	Concept-86482736	pandemic
EMTREE	interleukin 6	Concept-86433209	IL-6
EMTREE	patient	Concept-86484412	patient; patients; Patient

Figure 2. Context-aware enrichment – use TERMite, SciBite's named entity recognition tool, to annotate unstructured data sources with Emtree.

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.