Resource Summary Report

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CuticleDB

RRID:SCR_007045
Type: Tool

Proper Citation

CuticleDB (RRID:SCR_007045)

Resource Information

URL: http://bioinformatics.biol.uoa.gr/cuticleDB

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Description: A relational database containing all structural proteins of Arthropod cuticle identified to date. Many come from direct sequencing of proteins isolated from cuticle and from sequences from cDNAs that share common features with these authentic cuticular proteins. It also includes proteins from the five sequenced genomes where manual annotation has been applied to cuticular proteins: Anopheles gambiae, Apis mellifera, Bombyx mori, Drosophila melanogaster, and Nasonia vitripennis. Some sequences were confirmed as authentic cuticular proteins because protein sequencing revealed that they were present in cuticle; others were identified by sequence homology and other criteria. Entries provides information about whether sequences are putative or authentic cuticular proteins. CuticleDB was primarily designed to contain correct and full annotation of cuticular protein data. The database will be of help to future genome annotators. Users will be able to test hypotheses for the existence of known and also of yet unknown motifs in cuticular proteins. An analysis of motifs may contribute to understanding how proteins contribute to the physical properties of cuticle as well as to the precise nature of their interaction with chitin.

Abbreviations: cuticleDB

Synonyms: CuticleDB - A relational database of Arthropod cuticular proteins

Resource Type: data or information resource, database

Defining Citation: PMID:15453918

Keywords: genome, cuticle, cuticle protein, cuticular protein, cdna, protein, insect, exoskeleton, annotation, chitin, bio.tools

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Resource Name: CuticleDB

Resource ID: SCR_007045

Alternate IDs: biotools:cuticledb, nif-0000-02708

Alternate URLs: https://bio.tools/cuticledb

Record Creation Time: 20220129T080239+0000

Record Last Update: 20260905T133137+0000

Ratings and Alerts

No rating or validation information has been found for CuticleDB.

No alerts have been found for CuticleDB.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 14 mentions in open access literature.

Listed below are recent publications. The full list is available at Kravitz .

Zhang H, et al. (2026) Identification and Characterization of Cuticular Proteins in the Miridae Insect Apolygus lucorum. International journal of molecular sciences, 27(7).

Khan F, et al. (2023) Two Alimentary Canal Proteins, Fo-GN and Fo-Cyp1, Act in Western Flower Thrips, Frankliniella occidentalis TSWV Infection. Insects, 14(2).

Tang X, et al. (2023) Hypoxia-induced tracheal elasticity in vector beetle facilitates the loading of pinewood nematode. eLife, 12.

Yan Z, et al. (2022) A Blueprint of Microstructures and Stage-Specific Transcriptome Dynamics of Cuticle Formation in Bombyx mori. International journal of molecular sciences, 23(9).

Yuan H, et al. (2020) Infection of cotton bollworm by Helicoverpa armigera iflavirus decreases larval fitness. Journal of invertebrate pathology, 173, 107384.

Volovych O, et al. (2020) Identification and temporal expression profiles of cuticular proteins in the endoparasitoid wasp, Microplitis mediator. Insect science, 27(5), 998.

Chaparro-Aguirre E, et al. (2019) Antimicrobial activity and mechanism of action of a novel peptide present in the ecdysis process of centipede Scolopendra subspinipes subspinipes. Scientific reports, 9(1), 13631.

Hu L, et al. (2019) Transcriptome profiling of maternal stress-induced wing dimorphism in pea aphids. Ecology and evolution, 9(20), 11848.

Webster CG, et al. (2018) Identification of Plant Virus Receptor Candidates in the Stylets of Their Aphid Vectors. Journal of virology, 92(14).

Pan PL, et al. (2018) A comprehensive omics analysis and functional survey of cuticular proteins in the brown planthopper. Proceedings of the National Academy of Sciences of the United States of America, 115(20), 5175.

Zhao X, et al. (2017) Identification and expression of cuticular protein genes based on Locusta migratoria transcriptome. Scientific reports, 7, 45462.

Tynyakov J, et al. (2015) A novel chitin binding crayfish molar tooth protein with elasticity properties. PloS one, 10(5), e0127871.

Galperin MY, et al. (2005) The Molecular Biology Database Collection: 2005 update. Nucleic acids research, 33(Database issue), D5.

Magkrioti CK, et al. (2004) cuticleDB: a relational database of Arthropod cuticular proteins. BMC bioinformatics, 5, 138.