

Resource Summary Report

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[waveTM](#)

RRID:SCR_006199

Type: Tool

Proper Citation

waveTM (RRID:SCR_006199)

Resource Information

URL: <http://athina.biol.uoa.gr/bioinformatics/waveTM/>

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Description: A web tool for the prediction of transmembrane segments in alpha-helical membrane proteins. A sliding window of 20 residues is used in order to calculate an average residue hydrophobicity profile, using a hydrophobicity scale. Discrete Wavelet Transform is applied on the average residue hydrophobicity signal and the different frequency coefficients produced are adaptively thresholded so that a denoised signal is reconstructed. A dynamic programming algorithm processes the denoised signal to provide the optimal model for the number, the length and the location of membrane-spanning segments. The end points of the predicted segments are extended to include flanking hydrophobic residues. Topology prediction can also be obtained in conjunction with OrientTM (Liakopoulos et al, 2001). Analysis of a non-redundant test set, provides a ~95% per segment accuracy and ~90% per residue accuracy. Now, you can: * Run waveTM on a sequence * Browse the results obtained with the algorithm * View additional material concerning the hydrophobicity scale

Abbreviations: waveTM

Synonyms: waveTM: Wavelet-based transmembrane segment prediction

Resource Type: analysis service resource, data analysis service, production service resource, service resource

Defining Citation: [PMID:15107018](#)

Keywords: wavelet, predict, transmembrane segment, alpha-helical membrane protein, protein, protein sequence, discrete wavelet transform, sequence, hydrophobicity scale, hydrophobicity, transmembrane protein, topology, transmembrane

Funding: University of Athens; Athens; Greece

Availability: Freely available

Resource Name: waveTM

Resource ID: SCR_006199

Alternate IDs: nlx_151743

Record Creation Time: 20220129T080234+0000

Record Last Update: 20260912T200141+0000

Ratings and Alerts

No rating or validation information has been found for waveTM.

No alerts have been found for waveTM.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 3 mentions in open access literature.

Listed below are recent publications. The full list is available at [PRECISE-TBI](#) .

Park K, et al. (2022) Lysosomal Ca²⁺-mediated TFEB activation modulates mitophagy and functional adaptation of pancreatic ??-cells to metabolic stress. Nature communications, 13(1), 1300.

Diao F, et al. (2010) SIDL interacts with the dendritic targeting motif of Shal (K(v)4) K⁺ channels in Drosophila. Molecular and cellular neurosciences, 45(1), 75.

Katiyar A, et al. (2009) In silico characterization and homology modeling of thylakoid-bound ascorbate peroxidase from a drought tolerant wheat cultivar. Genomics, proteomics & bioinformatics, 7(4), 185.