Creating and comparing machine learning-based reverse vaccinology models for predicting viral protective antigens

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Which is (are) the best-performing machine learning-based reverse vaccinology model(s) for predicting viral protective antigens?



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Background

Methods

Vaccines protect against disease-causing pathogens such as viruses. Traditional vaccine development is difficult, time-consuming, and costly. Reverse vaccinology (RV) is an intriguing alternative to conventional vaccinology. RV programs predict protective antigens from pathogen proteins.
However, predictive accuracy remains a challenge for machine learning-based RV and has, so far, primarily focused on bacteria [1].

Aim

To identify the best-performing machine learning-based reverse vaccinology model(s) for predicting viral protective antigens.

Conclusion

The best-performing model(s) could be used to create an artificial intelligence tool in the future.



References

[1] Dalsass M et al. Comparison of open-source reverse vaccinology programs for bacterial vaccine antigen discovery. *Frontiers in immunology*, 2019.

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