Researching the specificity of TCR contributes to the development of immunotherapy and provides new opportunities and strategies for personalized cancer immunotherapy. Therefore, we established a TCR generative specificity detection framework consisting of TCR classifier and specificity classifier based on random forest, aiming to efficiently screen out TCRs and corresponding antigens. We used the k-fold validation method to compare the performance of our model with ordinary deep learning methods. The result proves that adding a classifier to the model based on the random forest algorithm is very effective, and our model generally outperforms ordinary deep learning methods. Furthermore, we put forward feasible optimization suggestions for the shortcomings and challenges of our model found during model implementation.