Translation tools use Application Programming Interface (API) mapping relations from one language to another language as a basis for translation. It is essential that API elements (i.e., classes, methods, and fields) between two languages exhibit the same behavior, since any inconsistencies could result in behavioral differences and defects. To detect behavioral differences between API elements described in mapping relations, and thereby to effectively translate applications, we propose the first novel approach, called TeMAPI (Testing Mapping relations of APIs). Given a translation tool, TeMAPI generates test cases that expose differences among mapping relations described in the tool. We applied our approach on five popular translation tools, and the results show that TeMAPI effectively detects various behavioral differences between mapped API elements. Our approach enables us to present eight findings that can improve effectiveness of translation tools, and also assist programmers in understanding the differences between mapped API elements of different languages.