

## **Abstract**

Protein eIF4E2 belongs to the family of eukaryotic translation initiation factors 4E, but it does not participate in translation initiation under normal circumstances. Its main role lies in translational repression of specific mRNAs. Nevertheless eIF4E2 takes part in translation initiation as a subunit of a specific translation initiation complex in hypoxic conditions. The exact mechanism in which eIF4E2 takes part in either of these processes is not known. One way to study the role of eIF4E2 in the cell is to find out what other proteins does eIF4E2 interact with. The goal of this work was to seek out potential eIF4E2-interacting partners in the HEK293 cell line using immunoprecipitation followed by mass spectrometry. Apart from finding individual proteins the goal was to identify eIF4E2-containing protein complexes in HEK293 cells. A second line of work was preparation of a system for screening inhibitors of the interaction between eIF4E2 and eIF4G3. The main result is finding potential new eIF4E2-interacting partners in human cells.