The work concerns to structural characterization of two important proteins of 2'-5' oligoadenylate pathway participating in an immune response of organism to a viral infection. Studied proteins were ankyrin domain of mouse RNase L, the C-terminal part of human phosphodiesterase 12 and the complete human phosphodiesterase 12. The proteins were characterized by Raman spectroscopy, infrared spectroscopy, electronic circular dichroism, dynamic light scattering and in addition by two non-spectroscopic methods— differential calorimetry and electrophoresis. For each protein the secondary structures, thermal stability, weight of oligomers and generally a basic characterization by above mentioned methods were provided.