Actinin is a microfilament protein. The functional protein is an anti-parallel dimer, which cross-links the thin filaments in adjacent sarcomeres, and therefore coordinates contractions between sarcomeres in the horizontal axis. Alpha-actinin is a part of the spectrin superfamily. This superfamily is made of spectrin, dystrophin, and their homologous and isoforms. In non-muscle cells, it is found by the actin filaments and at the adhesion sites.[1] The lattice like arrangement provides stability to the muscle contractile apparatus.[1] Specifically, it helps bind actin filaments to the cell membrane.[2] There is a binding site at each end of the rod and with bundles of actin filaments.[1]

The non-sarcomeric alpha-actinins, encoded by ACTN1 and ACTN4, are widely expressed. ACTN2 expression is found in both cardiac and skeletal muscle, whereas ACTN3 is limited to the latter. Both ends of the rod-shaped alpha-actinin dimer contain actin-binding domains. Six different proteins are produced from four alpha-actinin encoding genes.These six proteins can further be divided into two different groups: muscle (calcium insensitive) and non-muscle cytoskeletal (calcium sensitive) isoforms.[1]