

Besides the conventional mesons and baryons, QCD allows the possibility of exotic hadrons that contain extra quark-antiquark pair, yielding multi-quark hadrons such as tetraquarks and pentaquarks. We study these multi-quark states in the light quark sector using overlap fermions. We do not observe any bound pentaquark state in both parity channels for either $I = 0$ or $I = 1$. The states we found are consistent with KN scattering states which are checked to exhibit the expected volume dependence of the spectral weight. However, for a tetraquark state with two pion operator, besides usual two-particle scattering states we observe another one-particle state around 600 MeV, which could be $\sigma(600)0^{++}$. Nature of the observed states are again determined by the volume dependence of their spectral weights.