

DR is divided into two stages: non-proliferative diabetic retinopathy (NPDR) and proliferative diabetic retinopathy (PDR). Intravitreal administration of anti-VEGF agents is currently the mainstay of therapy for both early and advanced stages of DR. While the conventional laser therapy only provides stabilization of visual acuity, anti-VEGF therapy can result in visual improvement with less ocular adverse effects. However, according to the Diabetic Retinopathy Clinical Research Network (DRCR.net) study (Protocol I), ≥ 3 -line improvement in best-corrected visual acuity (BCVA) was achieved in only 29% of DME patients receiving two years of anti-VEGF treatment [2]. The inadequate response to anti-VEGF may be associated with the involvement of other molecular pathways than VEGF during the pathogenesis of DR. Studies investigating the underlying mechanisms of DR are of great importance, which may provide potential targets for the development of new alternative treatments. NPDR represents the early stage of DR, wherein increased vascular permeability and capillary occlusion are two main observations in the retinal vasculature.