Basement membranes are sheet-like extracellular matrices that are formed beneath epithelial cell sheets. Interactions between cells and basement membranes regulate epithelial cell behaviors such as cell adhesion, survival, polarization, migration, or differentiation. During embryogenesis and tissue regeneration, dynamic remodeling of basement membranes takes place, as is the case with that of epithelial cell sheets. The remodeling of basement membranes is an essential event to conduct cells for organizing tissue architecture. However such dynamics of basement membranes has been hardly studied in mammalian tissues though several studies using hydra and insects demonstrated that the basement membranes are dynamically remodeled during development. Recently we have developed a probe for basement membrane labeling in mammalian system by using fluorescent protein-tagged nidogen-l, a ubiquitous basement membrane protein. Among several fluorescent proteins, EGFP and mCherry were revealed to be useful as fluorescent probes fused with nidogen-l. These EGFP/mCherry-tagged nidogen-l recombinant proteins specifically bound to other basement membrane proteins in vitro. Furthermore, the EGFP/mCherry-tagged nidogen-l efficiently accumulated in vitro and visualized the basement membrane zone of embryoid bodies derived from mouse ES cells, and of the salivary gland explant culture from mouse embryo. Expression levels of mCherry-tagged nidogen-l in mammalian cells were higher than that of EGFP. To visualize basement membranes in living tissue of mice, transgenic mice expressing mCherry-tagged nidogen-l are going to be generated. The live-imaging of basement membranes by using these probes and model mice will shed light on dynamics of basement membranes in development, regeneration, and pathological processes.