Telomeres are the structures at the end of chromosomes, made of repetitive DNA, that protect chromosomes ends. Every time a cell divides, telomeres shorten by a small amount. This shortening is counter-balanced by the enzyme telomerase. Telomeres are thus maintained at about an equilibrium length. If telomere length is not properly maintained, they become too short and cause cell death. Problems with telomere length maintenance are associated with human disease including both cancer and age-related degenerative disease. Cancer cells increased telomere length to allow for continuous growth; conversely a failure to maintain telomeres in adult stem cells causes loss of tissue renewal. Short telomeres cause inherited Telomere Syndromes in humans, a group of age related degenerative diseases.