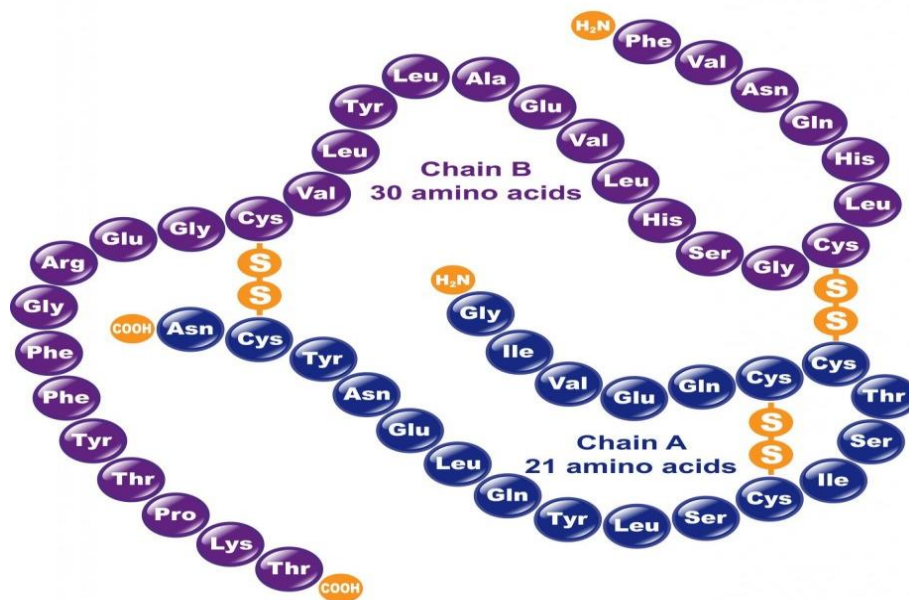


The major function of insulin is to counter the concerted actions of a number of hyperglycemia-generating hormones and to maintain low blood glucose levels. The biological actions of insulin are initiated when insulin binds to its cell surface receptor. Insulin is an anabolic hormone and when binding to its receptor begins, many protein activation cascades occur. These include the translocation of the glucose transporter to the plasma membrane and the influx of glucose, glycogen synthesis, glycolysis and fatty acid synthesis. Insulin has been observed as promoting the transport of some amino acids and potassium ions. Insulin also inhibits the liberation of free fatty acids and glycerol from the adipose tissue (Andersen et al., 2006).



(Figure 1.1): Insulin-Primary Structure.