Recent decades have witnessed increased interest in the production and utilization of gluten-free food products from underutilized plant sources to overcome the health concerns associated with gluten-containing foods and to feed the growing world population. In addition, global warming and shortage of water supply have also directed the research toward utilizing tolerant plants as potential sources of food, feed, cosmetic, and pharmaceutical products. In this regard, the samh (Mesembryanthemum forsskalei Hochst) plant is considered a suitable candidate that could be exploited in food and pharmaceutical applications. Samh is a halophyte plant that grows naturally in the semi-arid zones of Northern Africa and the Middle East and in many countries around the world. Samh is extremely tolerant to harsh desert environments, such as elevated temperatures, the salinity of soil and water, and limited water resources. This has subsequently led to demands for its cultivation and utilization to increase in recent years.