This review addresses the unique characteristics of Hanwoo cattle and potential health implications of consuming highly marbled Hanwoo beef. The Hanwoo breed has high genetic potential for accumulating intramuscular fat (IMF) and producing highly marbled beef. The high level of marbling is achieved through increasing levels of concentrated feed with an extended finishing period. In response to consumer preferences, the level of marbling of Hanwoo beef has been increasing. The IMF content can be manipulated depending on the feeding duration, finishing diet, and genotype. On the other hand, some consumers are expressing concern regarding the consumption of too much animal fat. This review discusses the potential of Hanwoo beef as a dietary source of heart-healthy fats. Highly marbled Hanwoo beef has a high proportion of monounsaturated fatty acid (MUFA) due to the presence of abundant oleic acid. Literature indicates that MUFA is a heart-healthy dietary fats because they can lower low-density lipoprotein (LDL)-cholesterol while increasing high-density lipoprotein (HDL)-cholesterol. Also, recent clinical trials have indicated that highly marbled beef does not increase LDL-cholesterol and consistently increases HDL-cholesterol. Finally, the current work emphasizes that consumption of high oleic acid Hanwoo beef might potentially reduce risk factors for cardiovascular disease, and may become accepted as a healthy well-being food.