In this thesis we study a weighted Sobolev-type inequality for functions from a certain Sobolev-type space that is built upon a rearrangement-invariant space. Considered rearrangement-invariant spaces are defined on the space $\mathbb{R}^n$ endowed with the measure that is given by a monomial weight. We prove a so-called reduction principle for the Sobolev-type inequality. The reduction principle represents a method of how to characterize the rearrangement-invariant spaces that satisfy the Sobolev-type inequality by means of one-dimensional inequalities. Next, for a fixed domain rearrangement-invariant space, we describe the optimal, i.e. the smallest target rearrangement-invariant space such that the Sobolev-type inequality holds. Finally, we describe some concrete examples. We describe the optimal spaces for Lorentz–Karamata spaces.