The interaction between RNA and RNA-binding proteins (RBPs) plays a crucial role in gene expression regulation, RNA stability, and various biological processes. RBPs execute these functions by binding to target RNA molecules through specific sequence and structure motifs. Identifying these binding motifs is essential for enhancing our understanding of cellular processes and their regulation. Introducing BRIO (BEAM RNA Interaction mOtifs), a new web server designed to identify sequence and structure RNA-binding motifs in one or more RNA molecules of interest. BRIO allows users to scan over 2508 sequence motifs and 2296 secondary structure motifs identified in Homo sapiens and Mus musculus, obtained from three different types of experiments (PAR-CLIP, eCLIP, HITS). These motifs are associated with the binding of 186 RBPs and 69 protein domains. The web server is freely accessible at http://brio.bio.uniroma2.it.