Let $G = (V, E)$ be a graph and $c : V \to \{1, 2, \ldots, k\}$ be a (not necessarily proper) $k$–coloring of the vertices of $G$ that uses all $k$ colors. A set $S \subseteq V$ is an rainbow dominating set for $G$ if i) Every vertex in $S$ is assigned a different color; and ii) $S$ is a dominating set, that is, every vertex in $V(G)/S$ is adjacent to a vertex of $S$. We define the rainbow domination number of a graph to be the least number $k$ such that every onto $k$ coloring of $G$ has a Rainbow domination number. We determine the rainbow domination number for certain graphs. (Received September 21, 2011)