Let $k$ be a field of characteristic different from 2 and let $G$ be a simply connected or adjoint, semisimple algebraic $k$-group without an absolutely simple factor of type $E_8$ and such that every absolutely simple factor of exceptional type is quasisplit. Let $S(G)$ be the set of homological torsion primes of $G$. We show that a principal homogenous space under $G$ over $k$ which admits a zero cycle of degree not divisible by the primes in $S(G)$ has a $k$-rational point. (Received September 16, 2010)