RÉSUMÉ. Let Δ be a left invariant sub-Laplacian on a Lie group \( G \) and let \( \nabla \) be the associated gradient. In this paper we investigate the boundedness of the Riesz transform \( \nabla \Delta^{-1/2} \) on Lie groups \( G \) which are amenable and with exponential volume growth and on certain homogenous spaces.