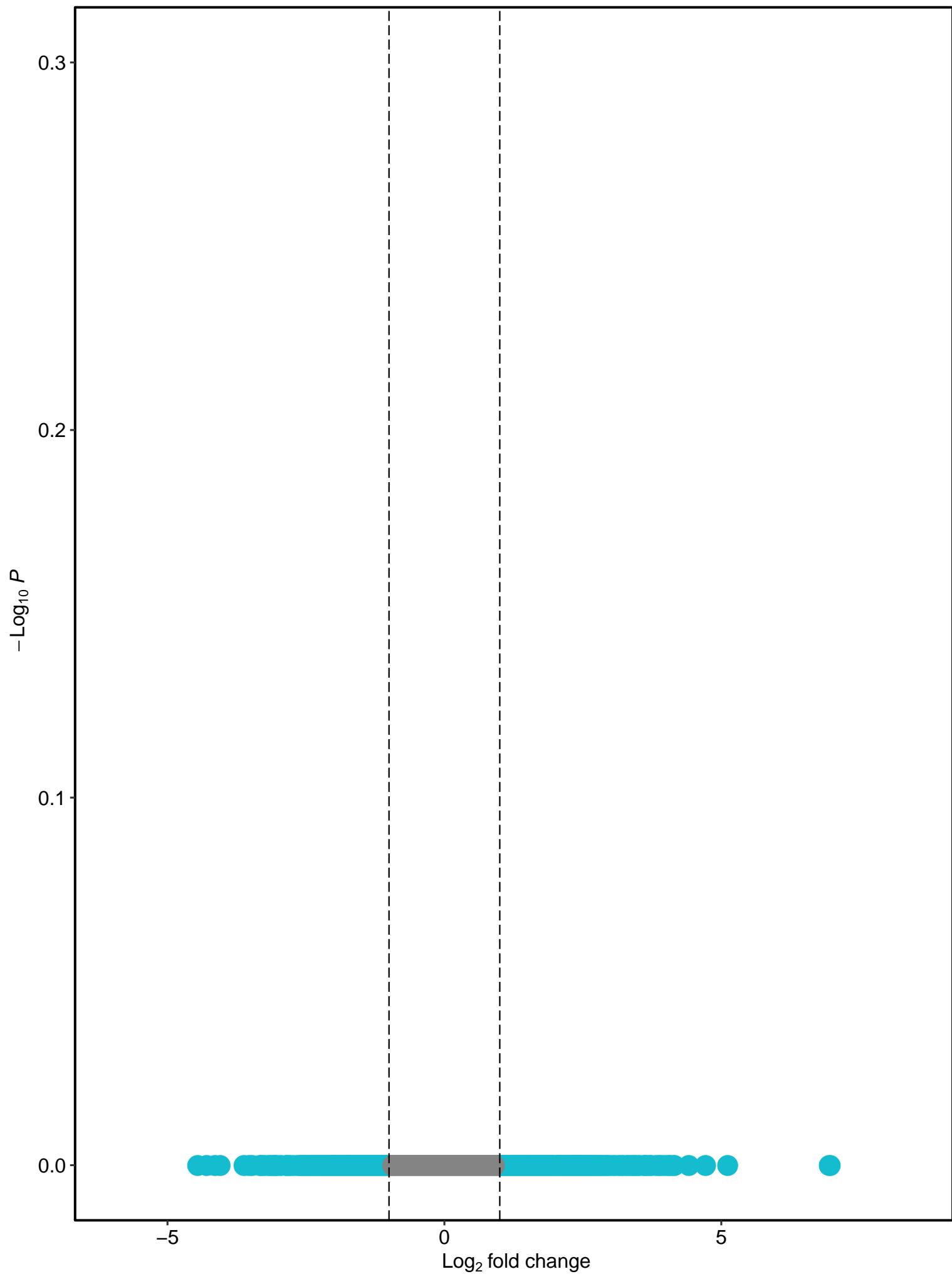total = 2657 variables