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import sys

##Function to genotype the vcf SNP calls from the PL values
def get_genotype(line, number):
    genotype = []
    for x in range(number):

        prob = line[x].split(',')
        if len(prob) > 3:
            return 0
        if int(prob[0]) == 0 and int(prob[1]) > 0 and int(prob[2]) > 0:
            genotype.append(1)

        if int(prob[0]) > 0 and int(prob[1]) == 0 and int(prob[2]) > 0:
            genotype.append(2)

        if int(prob[0]) > 0 and int(prob[1]) > 0 and int(prob[2]) == 0:
            genotype.append(3)

        if int(prob[0]) == 0 and int(prob[1]) >= 0 and int(prob[2]) ==
0:
            genotype.append('N')

        if int(prob[0]) > 0 and int(prob[1]) > 0 and int(prob[2]) > 0:
            genotype.append('N')
    return genotype

##vcf file with introgressed genotype and control genotypes
targetfile = open(sys.argv[1], "r")

for line in targetfile:

    line = line.strip()
    hold = line.split()
    if hold[0].startswith('#'):
        continue

    result = get_genotype(hold[9:13],4)

    ##select those SNPS that are present in introgressed genotype and
not in control genotypes
    if result:
        if len(result) < 4:
            continue
        if result[0] == 3 and result[1] == 1 and result[2] == 1 and
result[3] == 1:
            print(line)

targetfile.close()

```