Adult type associated lactase persistence genotypes in Czech and Roma/Gypsy populations
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Background
Dairy products are an important source of calcium. Lactase non-persistence/lactose intolerance is a physiologically dependent nonability to digest lactose in adult age. Due to the human adaptation on dairying, new mutation influencing the activity of human lactase LCT C-13,910T occurs and spread out. This mutation is associated with lactase activity persistence and carriers of this mutation are able to digest lactose and consume dairy products through the adulthood.

Methods
We have compared the frequencies of the lactase -13910C/T (rs4988235) genotypes in two ethnically different groups Czechs (N=288) and Gypsies/Roma (N=300), where this polymorphism was not yet analysed. The allelic frequencies significantly differ between the populations (P<0.0001).

Results
In Czechs, lactase persistent T allele is present in 76% of individuals which is in agreement with frequencies in geographically neighbouring populations. In contrast, in Gypsies/Roma population, only 27% of adult are carriers of at least one lactase persistent allele, similarly to the Indian population. In agreement with this result, the dairy products consumption was reported by 70.5% of Caucasians and 30.2% of Gypsies.

Conclusions
Our results underline that low consumption of dairy products, especially within the minorities, could have important genetic background the calcium intake deficiency could be the better option.

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Key messages:
• Dairy consumption could be influenced by the genetic predisposition
• There are genetically based differences in lactose tolerance between Czechs and Roma/Gypsies