

leading hypothesis. However, *H. cinaedi* is an enterohepatic bacterium, and the patient had undergone surgery for an adhesive small intestinal obstruction 1 month before. Her medical and surgical history might have increased the intraintestinal pressure and induced the hepatic cyst infection through biliary reflux.

The patient had schizophrenia but was not immunocompromised beyond her surgical history. Many cases of *H. cinaedi* infection have been reported in immunocompromised hosts (2), but reports of *H. cinaedi* infections in immunocompetent patients have been increasing (3). Matsumoto et al. showed that *H. cinaedi* bacteremia was found in only 0.06% of total blood samples (4); none of the patients in their study were HIV-positive, but many were immunocompromised by other conditions. Kiehlbauch et al. also conducted a retrospective study of *H. cinaedi* bacteremia and found that 45% of patients were HIV-positive (5). *H. cinaedi* infection can occur regardless of a patient's immunologic or environmental status.

*H. cinaedi* infections are often reported in Japan. Miyake et al. reported that the *H. cinaedi* detection rate has increased after introduction of the BACTEC system (6). We also used BACTEC bottles. The widespread use of this type of blood culture bottle throughout Japan might contribute to the positivity rate of *H. cinaedi*.

We report a case of *H. cinaedi* hepatic cyst infection with bacteremia. *H. cinaedi* infection can occur in both nosocomial and community-acquired situations and in both immunocompromised and immunocompetent patients; its manifestations vary quite widely. Although the positivity rate of *H. cinaedi* is very low, it might still be overlooked. Further research is warranted to identify the epidemiologic and clinical features of *H. cinaedi* infection.

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## ***Mycobacterium tuberculosis* RD-Rio Strain in Kazakhstan**

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*Mycobacterium tuberculosis* RD-Rio strains are still rare in the former Soviet Union countries and Asia. We describe a strain in Kazakhstan that belongs to the RD-Rio secondary branch, which is endemic to northwest Russia and eastern Europe. Although RD-Rio strains are frequently multidrug resistant, this heterogeneous branch included only drug-susceptible isolates.



of origin of immigrants to Russia. However, phylogenetic analysis based on high-resolution VNTR loci placed this strain within the branch exclusively made of the isolates from different and neighboring regions in northwestern Russia and Latvia (Figure). We consider this clustering to be evidence that this strain is related to the *M. tuberculosis* population in the European part of Russia. Another example of cross-country *M. tuberculosis* transmission is the “successful Russian strain” Beijing B0/W148-cluster; its overall prevalence in Kazakhstan is low, at 3%, and its isolates were identified in the northern part of the country that is close to Russia (6).

Previously, strains of the LAM RD-Rio or SIT20 spoligotype were not described in several countrywide studies in Kazakhstan during 1997–2014 (2,6–8). In neighboring Kyrgyzstan, SIT20 was not described either in the civilian or penitentiary settings (9,10). In view of the rarity of RD-Rio isolates in northern Eurasia and their previous absence in Kazakhstan, the isolation of such a strain in Kazakhstan, especially in the most distant southern region, deserves attention. That no other isolates have been found through our ongoing surveillance strongly suggests the strain was imported and not acquired in Kazakhstan. The isolates in this SIT20 Russian branch were sufficiently heterogeneous in terms of VNTR locus diversity; they were isolated in different years, and all isolates were drug susceptible (Figure). RD-Rio is known to be associated with MDR, and even by chance, some of these isolates in former Soviet Union countries could have acquired drug resistance under the current adverse conditions of TB control in this region. Nevertheless, these strains have remained drug susceptible. Further surveillance will be needed to determine if additional strains appear and, if so, whether they remain drug susceptible or acquire drug resistance.

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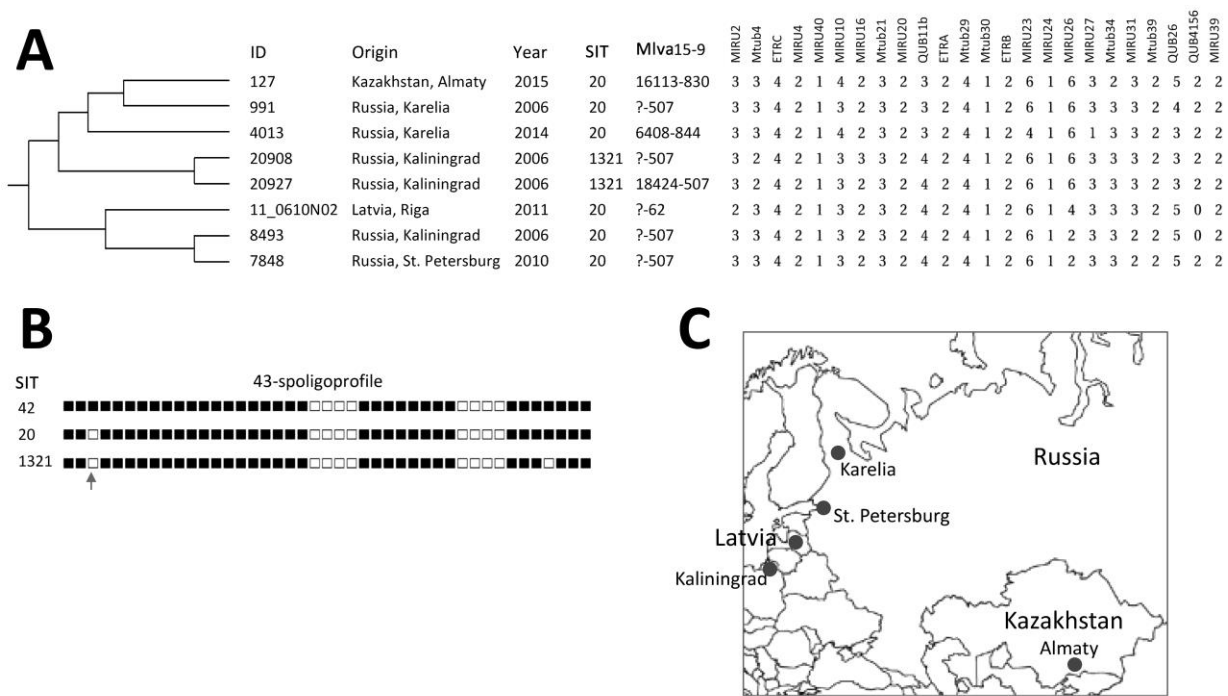
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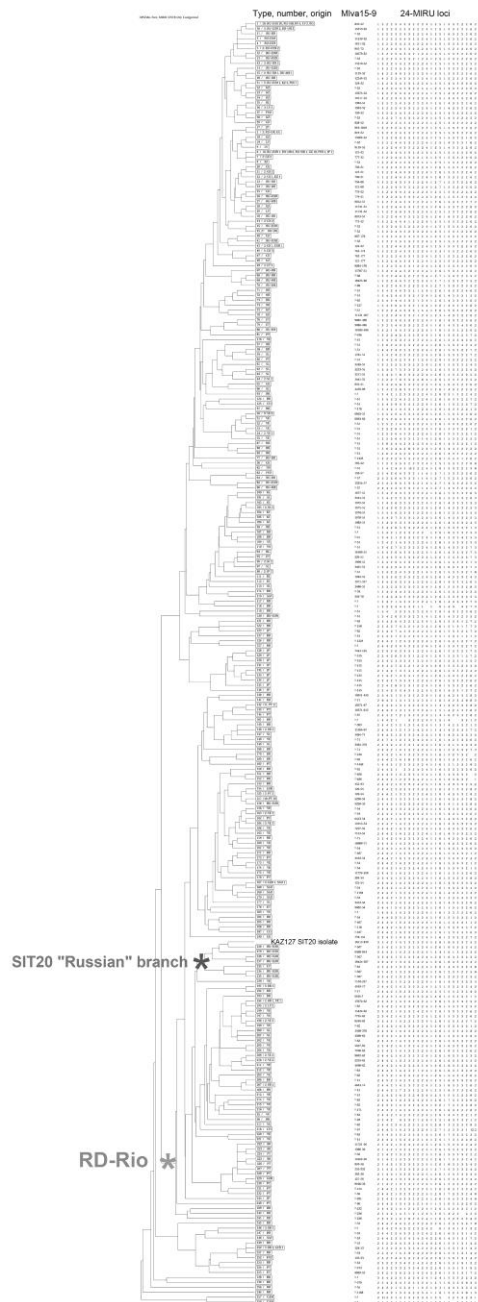
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# Mycobacterium tuberculosis RD-Rio Strain in Kazakhstan

## Appendix



**Appendix Figure 1.** *Mycobacterium tuberculosis* RD-Rio strain in Kazakhstan. A) Section of the variable-number tandem-repeat-based dendrogram of the Latin-American-Mediterranean family of *Mycobacterium tuberculosis* RD-Rio strain with enlarged branch including SIT20 strain from Kazakhstan. All isolates were drug-susceptible. B) Binary spoligoprofiles of the studied strains. C) Locations of isolation of the studied strains.



**Appendix Figure 2.** The UPGMA dendrogram of 259 VNTR types (357 LAM isolates) (Mokrousov et al., 2016) with SIT20 strain from Kazakhstan. Asterisks indicate RD-Rio sublineage and its branch with SIT20 strain from Kazakhstan (“SIT20 Russian branch”). The column “Type, number and origin” refers to the LAM types in Mokrousov et al. (2016). Mlva15–9 refers to nomenclature of MIRU-VNTRplus.org. Twenty-four VNTR loci are listed in the order in which they are found on chromosome, clockwise: 424, 577, 580, 802, 960, 1644, 1955, 2163b, 2165, 2401, 2996, 3192, 3690, 4052, 4156, 154, 2059, 2347, 2461, 2531, 2687, 3007, 3171, 4348.

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