A. Alignment of Tp0954 sequence from five different T. pallidum strain of different geographic origins

Nichols 1  MRYGLFKVSVLLGALFVSCVSTGSNSAREQALLKSENFPNIRFAQLSGLGKEKQREWAEALQLFDTLSPEHRAEKRIQYLYLSTLISAGKTLHAGELA
SS14 1  MRYGLFKVSVLLGALFVSCVSTGSNSAREQALLKSENFPNIRFAQLSGLGKEKQREWAEALQLFDTLSPEHRAEKRIQYLYLSTLISAGKTLHAGELA
Chicago 1  MRYGLFKVSVLLGALFVSCVSTGSNSAREQALLKSENFPNIRFAQLSGLGKEKQREWAEALQLFDTLSPEHRAEKRIQYLYLSTLISAGKTLHAGELA
Mexico A 1  MRYGLFKVSVLLGALFVSCVSTGSNSAREQALLKSENFPNIRFAQLSGLGKEKQREWAEALQLFDTLSPEHRAEKRIQYLYLSTLISAGKTLHAGELA
Amoy 1  MRYGLFKVSVLLGALFVSCVSTGSNSAREQALLKSENFPNIRFAQLSGLGKEKQREWAEALQLFDTLSPEHRAEKRIQYLYLSTLISAGKTLHAGELA

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Nichols 1  EKLGQDGPTASETVQLWYAHAMIAQAKRDVRKKQYVEKILAQDPHDLWALTERGYDFLSVNYDAQAVAFSRLREPAQRADVGLKYYLYQKME
SS14 1  EKLGQDGPTASETVQLWYAHAMIAQAKRDVRKKQYVEKILAQDPHDLWALTERGYDFLSVNYDAQAVAFSRLREPAQRADVGLKYYLYQKME
Chicago 1  EKLGQDGPTASETVQLWYAMIAQAKRDVRKKQYVEKILAQDPHDLWALTERGYDFLSVNYDAQAVAFSRLREPAQRADVGLKYYLYQKME
Mexico A 1  EKLGQDGPTASETVQLWYAMIAQAKRDVRKKQYVEKILAQDPHDLWALTERGYDFLSVNYDAQAVAFSRLREPAQRADVGLKYYLYQKME
Amoy 1  EKLGQDGPTASETVQLWYAMIAQAKRDVRKKQYVEKILAQDPHDLWALTERGYDFLSVNYDAQAVAFSRLREPAQRADVGLKYYLYQKME

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Nichols 1  AEAQYRQVLTDPEHERALECRAVKEATRNVELAEIDLRVQLDPLDPAWTDGTLYRQLAQPKERRAAAARFAVLSADAYFAHILYLGGYDLGRA
SS14 1  AEAQYRQVLTDPEHERALECRAVKEATRNVELAEIDLRVQLDPLDPAWTDGTLYRQLAQPKERRAAAARFAVLSADAYFAHILYLGGYDLGRA
Chicago 1  AEAQYRQVLTDPEHERALECRAVKEATRNVELAEIDLRVQLDPLDPAWTDGTLYRQLAQPKERRAAAARFAVLSADAYFAHILYLGGYDLGRA
Mexico A 1  AEAQYRQVLTDPEHERALECRAVKEATRNVELAEIDLRVQLDPLDPAWTDGTLYRQLAQPKERRAAAARFAVLSADAYFAHILYLGGYDLGRA
Amoy 1  AEAQYRQVLTDPEHERALECRAVKEATRNVELAEIDLRVQLDPLDPAWTDGTLYRQLAQPKERRAAAARFAVLSADAYFAHILYLGGYDLGRA

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Nichols 1  EKAIEHYQRAVQLYPKYHFSFESLGVLFWEQQRWEEAREAFATALTYAPTNISYALMTALCLCQMGQAHKAQHFMRTFIRTVDRTRREVEYFLCRLFVDL
SS14 1  EKAIEHYQRAVQLYPKYHFSFESLGVLFWEQQRWEEAREAFATALTYAPTNISYALMTALCLCQMGQAHKAQHFMRTFIRTVDRTRREVEYFLCRLFVDL
Chicago 1  EKAIEHYQRAVQLYPKYHFSFESLGVLFWEQQRWEEAREAFATALTYAPTNISYALMTALCLCQMGQAHKAQHFMRTFIRTVDRTRREVEYFLCRLFVDL
Mexico A 1  EKAIEHYQRAVQLYPKYHFSFESLGVLFWEQQRWEEAREAFATALTYAPTNISYALMTALCLCQMGQAHKAQHFMRTFIRTVDRTRREVEYFLCRLFVDL
Amoy 1  EKAIEHYQRAVQLYPKYHFSFESLGVLFWEQQRWEEAREAFATALTYAPTNISYALMTALCLCQMGQAHKAQHFMRTFIRTVDRTRREVEYFLCRLFVDL

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Nichols 1  SGEQMSRISKSVFQRIRYSFYLYEYYLGRHLLAEKHYGEVESARAPSSFEHRALSAGLRRLRGRSSSLRTNP 478
SS14 1  SGEQMSRISKSVFQRIRYSFYLYEYYLGRHLLAEKHYGEVESARAPSSFEHRALSAGLRRLRGRSSSLRTNP 478
Chicago 1  SGEQMSRISKSVFQRIRYSFYLYEYYLGRHLLAEKHYGEVESARAPSSFEHRALSAGLRRLRGRSSSLRTNP 478
Mexico A 1  SGEQMSRISKSVFQRIRYSFYLYEYYLGRHLLAEKHYGEVESARAPSSFEHRALSAGLRRLRGRSSSLRTNP 478
Amoy 1  SGEQMSRISKSVFQRIRYSFYLYEYYLGRHLLAEKHYGEVESARAPSSFEHRALSAGLRRLRGRSSSLRTNP 478

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B. Alignment of Tp0954 of Nichols Houston and T. paraluiscuniculi homolog

Houston 1  MRYGLFKVSVLLGALFVSCVSTGSNSAREQALLKSENFPNIRFAQLSGLGKEKQREWAEALQLFDTLSPEHRAEKRIQYLYLSTLISAGKTLHAGELA
Paralucisc. 1  MRYGLFKVSVLLGALFVSCVSTGSNSAREQALLKSENFPNIRFAQLSGLGKEKQREWAEALQLFDTLSPEHRAEKRIQYLYLSTLISAGKTLHAGELA

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Houston 1  EKLGQDGPTASETVQLWYAHAMIAQAKRDVRKKQYVEKILAQDPHDLWALTERGYDFLSVNYDAQAVAFSRLREPAQRADVGLKYYLYQKME
Paralucisc. 1  EKLGQDGPTASETVQLWYAHAMIAQAKRDVRKKQYVEKILAQDPHDLWALTERGYDFLSVNYDAQAVAFSRLREPAQRADVGLKYYLYQKME

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Houston 1  AEAQYRQVLTDPEHERALECRAVKEATRNVELAEIDLRVQLDPLDPAWTDGTLYRQLAQPKERRAAAARFAVLSADAYFAHILYLGGYDLGRA
Paralucisc. 1  AEAQYRQVLTDPEHERALECRAVKEATRNVELAEIDLRVQLDPLDPAWTDGTLYRQLAQPKERRAAAARFAVLSADAYFAHILYLGGYDLGRA

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Houston 1  EKAIEHYQRAVQLYPKYHFSFESLGVLFWEQQRWEEAREAFATALTYAPTNISYALMTALCLCQMGQAHKAQHFMRTFIRTVDRTRREVEYFLCRLFVDL
Paralucisc. 1  EKAIEHYQRAVQLYPKYHFSFESLGVLFWEQQRWEEAREAFATALTYAPTNISYALMTALCLCQMGQAHKAQHFMRTFIRTVDRTRREVEYFLCRLFVDL

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Houston 1  SGEQMSRISKSVFQRIRYSFYLYEYYLGRHLLAEKHYGEVESARAPSSFEHRALSAGLRRLRGRSSSLRTNP 478
Paralucisc. 1  SGEQMSRISKSVFQRIRYSFYLYEYYLGRHLLAEKHYGEVESARAPSSFEHRALSAGLRRLRGRSSSLRTNP 478

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