

Nucleotide sequence of the listeriolysin gene from a *Listeria monocytogenes* serotype 1/2a strain

Eugen Domann and Trinad Chakraborty

Institut für Genetik und Mikrobiologie, Röntgenring 11, 8700 Würzburg, FRG
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The DNA sequence of a 2048bp region encoding the listeriolysin gene from a weakly hemolytic *L. monocytogenes* serotype 1/2a strain is reported. The transcription start site (*) was determined by primer extension studies. In the 3' untranslated region, a hyphenated dyad repeat (underlined) represents a putative transcription terminator. The sequence is identical to the 1795bp previously reported for a listeriolysin gene cloned from a strongly hemolytic serotype 1/2c strain (1). These strains were isolated 40 years apart in different geographical locations, are of different serotype and exhibit extreme differences in their hemolytic phenotype(1,2). Variation in the hemolytic phenotype of *L. monocytogenes* isolates is therefore likely to be determined by differences in regions external to the listeriolysin gene.

TAACGACGTAAAGGGACAGCAGGACTAGAAATAAAGCTATAAAGCAAGCATATAATATTGCGTTTCATCTTTAGAAGCGAATTTCCGCCAA
-35 -10 * 1
TATTATAATTATCAAAGAGAGGGGTGGCAAACGGTATTTGGCATTATTAGGTTAAAAAATGTAGAAGGGAGAGTGAACCCTGAAAAA
METLysLys
ATAATGCTAGTTTTATTACACTTATATTAGTTAGTCTACCAATTCGCGCAACAACCTGAAGCAAAGGATGCATCTGCATTCAATAAAGAA
IleMETLeuValPheIleThrLeuIleLeuValSerLeuProIleAlaGlnGlnThrGluAlaLysAspAlaSerAlaPheAsnLysGlu
AATTCAAATTCATCCATGGCCACCACCGCATCTCCGCTCGAAGTCTTAAGACGCCAATCGAAAAGAAACACCGGGATGAAATCGATAAG
AsnSerIleSerSerMETAlaProProAlaSerProProAlaSerProLysThrProIleGluLysLysHisAlaAspGluIleAspLys
TATATCAAGGATGGATTACAATAAAAAAATGTATTAGTATACCACGGAGATGCAGATGACAAAATGGCCGCAAGAAAAGGTTACAAA
TyrIleGlnGlyLeuAspTyrAsnLysAsnAsnValLeuValTyrHisGlyAspAlaValThrAsnValProProArgLysGlyTyrLys
GATGGAAAATGAATATATTGTTGGAGAAAAAGAGAAATCCCATCAATCAAAAATAATGCAGACATTCAGTGTGAAATTCGAAATTCGAGC
AspGlyAsnGluTyrIleValValGluLysLysLysSerIleAsnGlnAsnAsnAlaAspIleGlnValValAsnAlaIleSerSer
CTAACCTATCCAGGTGCTCTCGTAAAAGCGAATTCGGAATTAGTAGAAAAATCAACACAGATGTTCTCCCTGTAAAACGTTGATTCATTAACA
LeuThrTyrProGlyAlaLeuValLysAlaAsnSerGluLeuValGluAsnGlnProAspValLeuProValLysArgAspSerLeuThr
CTCAGCATTGATTGCCAGGTATGACTAATCAAGACAATAAAATCGTGTAAAAAATGCCACTAAATCAAACGTTAAACACGCGAGTAAAT
SerIleAspLeuProGlyMETThrAsnGlnAspAsnLysIleValValLysAsnAlaThrLysSerAsnValAsnAsnAlaValAsn
ACATTGCGAAAAGATGGAATGAAAATATGCTCAAGCTTATCCAAATGTAAGTGCAAAAATTTGATTTATGATGACAAAATGGCTTACAGT
ThrLeuValGluArgTrpAsnGluLysTyrAlaGlnAlaTyrProAsnValSerAlaLysIleAspTyrAspAspGluMETAlaTyrSer
GAATCACAATTAATTCGCAAAATTTGGTCAGCATTAAAGCTGTAATAATAGCTTGAATGTAAACTTCGCGCAATCATGTTGAAGGGAAA
GluSerGlnLeuIleAlaLysPheGlyThrAlaPheLysAlaValAsnAsnSerLeuAsnValAsnPheGlyAlaIleSerGluGlyLys
ATCAAGAGAAGTCAATAGTTTTAAACAAATTTACTATAACGTGAATGTAATGAACCTCAAGACCTCCAGATTTTTTCGGCAAAGCT
METGlnGluGluValIleSerPheLysGlnIleTyrTyrAsnValAsnValAsnGluProThrArgProSerArgPhePheGlyLysAla
GTTACTAAAGACGAGTTGCAAGCGCTTGGAGTGAATGCAGAAAATCCTCCTGCATATATCTCAAGTGTGGCGTATGGCCGTCAGTTTAT
ValThrLysGluGlnLeuGlnAlaLeuGlyValAsnAlaGluAsnProProAlaTyrIleSerLysAlaTyrGlyArgGlnValTyr
TTGAAATTAATCAACTAATTCCTTAGTACTAAAGTAAAGCTGCTTTTGTATGCTGCCGTAAAGCGGAAATCTGCTCAGGTGATGTAGAA
LeuLysLeuSerThrAsnSerHisSerThrLysValLysAlaAlaPheAspAlaAlaValSerGlyLysSerValSerGlyAspValGlu
CTAACAAATATCATCAAAAATCTCTCTCAAGCCGCTAATTCACGAGGTTTCGCGAAAAGATGAAGTCAAATTCATCCAGCGCAACCTC
LeuThrAsnIleIleLysAsnSerSerPheLysAlaValIleTyrGlyGlySerAlaLysAspGluValGlnIleIleAspGlyAsnLeu
GGAGACTTACGGGATTTTTGAAAAGGCGCTACTTTAATCGAGAAACACAGGAGTTCCTTGTGTTATACAACAACTTCCTAAAA
GlyAspLysArgAspIleLeuLysLysGlyAlaThrPheAsnArgGluThrProGlyValProIleAlaTyrThrThrPheLys
GCAATGAATAGCTGTATTAAAAACAACCTCAGAATATATTGAAACAACCTCAAAGCTTATACAGATGAAAAATTAACATCGATCAC
AspAsnGluLeuAlaValIleLysAsnAsnSerGluTyrIleGluThrThrSerLysAlaTyrThrAspGlyLysIleAsnIleAspHis
TCTGGAGGATACGTTGCTCAATCAACATTTCTGGGATGAAGTAAATATGATCCTGAAGGTAACGAAATTTGTTCAACATAAAAACTGG
SerGlyGlyTyrValAlaGlnPheAsnIleSerTrpAspGluValAsnTyrAspProGluGlyAsnGluIleValGlnHisLysAsnTrp
AGCGAAAACAATAAAGCAAGTACTGCTATTCACATCGTCCATCTATTGGCCAGGTAACGCGAGAAATATTAATGTTACCGTAAAGAA
SerGluAsnAsnLysSerLysLeuAlaHisPheThrSerSerIleTyrLeuProGlyAsnAlaArgAsnIleAsnValTyrAlaLysGlu
TGCACTGGTTAGCTTGGGAATGGTGAGAACGGTAATTGATGACCGGAACTTACCCTTGTGAAAAATGAAAATTCCTCCATCTGGGGC
CysThrGlyLeuAlaTrpGluTrpTrpArgThrValIleAspAspArgAsnLeuLeuValLysLysAsnArgAsnIleSerIleTrpGly
ACCCGCTTATCCGAAATATAGTAATAAAGTAGATAATCCAATCGAATAATTTGAAAAGTAAATAAAAAATTAAGAATAAAAAACCCGCTTAA
ThrThrTyrProLysTyrSerAsnLysValAspAsnProIleGluEnds29
CACACCGAAAAAATACGTTTGGCTTTGGCACCTCTCGTAAATATTGTTGTAAGAAATGTAGAAACAGGCTTATTTTTTAAATTTTTTGTAG
AAGAAATTAACAAATGTAAGAATAATCTGACTGTTTATCCATATAATATAAGCATATCCCAAAGTTTAAAGCCACTAGTATTTCTACTGCG
AAAACGTATAATTTAGTTCACATATATAAAAAACGTGCTTAACTCTCTGTCAGATTAGTTGTA2048

References (1) Mengaud, J., Vicente, M.-F., Chenevert, J., Pereira, J.-M., Geoffroy, G., Gicquel-Sanzey, B., Baquero, F., Perez-Diaz, J.F., and P. Cossart. (1988) *Infect. Immun.* 56: 766-772
(2) Leimeister-Wächter, M., and T. Chakraborty. (1989) *Infect. Immun.* 57: (in press).