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The nucleotide sequence for the cDNA of bovine interleukin-1 beta

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The bovine interleukin-1 beta cDNA was obtained from a bovine alveolar marcophage cDNA library using a human IL-1 beta probe (1) and low stringency hybridization. The cDNA encodes a precursor protein of 266 amino acids. This protein exhibits 76% similarity with human IL-1 beta and 69% similarity with murine IL-1 beta (2). The presumed cleavage position between signal and mature sequences is marked by an arrow. The mature protein encoded by this cDNA has been expressed in *E. coli* and is biologically active.

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 1                                                  Met Ala Thr Val Pro Glu Pro Ile
 1 ATTCTCTCCAGCCAACCTTCATTGCCCAGGTTTCTGAAACAGCC    ATG GCA ACC GTA CCT GAA CCC ATC

 9 Asn Glu Met Met Ala Tyr Tyr Ser Asp Glu Asn Glu Leu Leu Phe Glu Ala Asp Asp Pro
69 AAC GAA ATG ATG GCT TAC TAC AGT GAC GAG AAT GAG CTG TTA TTT GAG GCT GAT GAC CCT

29 Lys Gln Met Lys Ser Cys Ile Gln His Leu Asp Leu Gly Ser Met Gly Asp Gly Asn Ile
129 AAA CAG ATG AAG AGC TGC ATC CAA CAC CTG GAC CTC GGT TCC ATG GGA GAT GGA AAC ATC

49 Gln Leu Gln Ile Ser His Gln Phe Tyr Asn Lys Ser Phe Arg Gln Val Val Ser Val Ile
189 CAG CTG CAG ATT TCT CAC CAG TTC TAC AAC AAA AGC TTC AGG CAG GTG GTG TCG GTC ATC

69 Val Ala Met Glu Lys Leu Arg Asn Ser Ala Tyr Ala His Val Phe His Asp Asp Asp Leu
249 GTG GCC ATG GAG AAG CTG AGG AAC AGT GCC TAC GCA CAT GTC TTC CAT GAT GAT GAC CTG

89 Arg Ser Ile Leu Ser Phe Ile Phe Glu Glu Glu Pro Val Ile Phe Glu Thr Ser Ser Asp
309 AGG AGC ATC CTT TCA TTC ATC TTT GAA GAA GAG CCT GTC ATC TTC GAA ACG TCC TCC GAC

109 Glu Phe Leu Cys Asp▼Ala Pro Val Gln Ser Ile Lys Cys Lys Leu Gln Asp Arg Glu Gln
369 GAG TTT CTG TGT GAC GCA CCC GTT CAG TCA ATA AAG TGC AAA CTC CAG GAC AGA GAG CAA

129 Lys Ser Leu Val Leu Ala Ser Pro Cys Val Leu Lys Ala Leu His Leu Leu Ser Gln Glu
429 AAA TCC CTG GTG CTG GCT AGC CCA TGT GTG CTG AAG GCT CTC CAC CTC CTC TCA CAG GAA

149 Met Asn Arg Glu Val Val Phe Cys Met Ser Phe Val Gln Gly Glu Glu Arg Asp Asn Lys
489 ATG AAC CGA GAA GTG GTG TTC TGC ATG AGC TTT GTG CAA GGA GAG GAA AGA GAC AAC AAG

169 Ile Pro Val Ala Leu Gly Ile Lys Asp Lys Asn Leu Tyr Leu Ser Cys Val Lys Lys Gly
549 ATT CCT GTG GCC TTG GGT ATC AAG GAC AAG AAT CTA TAC CTG TCT TGT GTG AAA AAA GGT

189 Asp Thr Pro Thr Leu Gln Leu Glu Glu Val Asp Pro Lys Val Tyr Pro Lys Arg Asn Met
609 GAT ACG CCC ACC CTG CAG CTG GAG GAA GTA GAC CCC AAA GTC TAC CCC AAG AGG AAT ATG

209 Glu Lys Arg Phe Val Phe Tyr Lys Thr Glu Ile Lys Asn Thr Val Glu Phe Glu Ser Val
669 GAA AAG CGC TTT GTC TTC TAC AAG ACA GAA ATC AAG AAT ACA GTT GAA TTT GAG TCT GTC

229 Leu Tyr Pro Asn Trp Tyr Ile Ser Thr Ser Gln Ile Glu Glu Arg Pro Val Phe Leu Gly
729 CTG TAC CCT AAC TGG TAC ATC AGC ACT TCT CAA ATC GAA GAA AGG CCC GTC TTC CTG GGA

249 His Phe Arg Ala Gly Gln Asp Ile Thr Asp Phe Arg Met Glu Thr Leu Ser Pro
789 CAT TTT CGA GCT GGC CAG GAT ATA ACT GAC TTC AGA ATG GAA ACC CTC TCT CCC TAA AGA

849 AAGCCATACCCAGGGAGTCCACGTGGGCTGAATAACCCCGAGGACTGGCAGAAGGGAAGGGAAGAATGTAGCTGCAGCC

928 TGAACTTCACTGTTGTC
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REFERENCES

(1) Auron, P. E. et al. (1984) Proc. Natl. Acad., Sci. USA 81, 7907. (2) Gray, P. W. et al. (1986) J. Immmunol. 134, 895.

