

# Annex

Seqüència de l'ADNc que correspon al gen de l'opsina bovina:

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aattcatgaacggtaccgaaggcccaacttctacgttcctttctccaacaagacgggcg
1 -----+-----+-----+-----+-----+-----+-----+ 60
ttaagtacttgccatggcttccgggttgaagatgcaaggaaagaggttgttctgccccg

  F M N G T E G P N F Y V P F S N K T G V -

tggtgcgagcccgttcgaggctccgcagtaactacctggcggagccctggcagttctcca
61 -----+-----+-----+-----+-----+-----+-----+ 120
accacgctcgggcaagctccgaggcgtcatgatggaccgctcgggaccgtcaagaggt

  V R S P F E A P Q Y Y L A E P W Q F S M -

tgetggcgcctacatggtcctgctgatcatgcttggcttcccgatcaacttctcaccgc
121 -----+-----+-----+-----+-----+-----+-----+ 180
acgaccggcggatgtacaaggacgactagtagcaaccgaaggctagttgaaggagtgcg

  L A A Y M F L L I M L G F P I N F L T L -

tgtacgtcacagtcacagcacaagaagcttcgcacaccgctcaactacatcctgctcaacc
181 -----+-----+-----+-----+-----+-----+-----+ 240
acatgcagtgtcaggctcgtgttcttcgaagcgtgtggcgagttgatgtaggacaggtgg

  Y V T V Q H K K L R T P L N Y I L L N L -

tggcgtggcagatctcttcaggtcttcggtggttcaccaccacctctacacctctc
241 -----+-----+-----+-----+-----+-----+-----+ 300
accggcaccgtctagagaagtaccagaagccaccgaagtggtggtgggagatgtggagag

  A V A D L F M V F G G F T T T L Y T S L -

tccatgggtacttctgtctttgggcccagggctgcaacctcgagggcttctttgccacc
301 -----+-----+-----+-----+-----+-----+-----+ 360
aggtaccatgaagcagaaacccggctgcccgcgcttggagctcccgaagaacgggtggg

  H G Y F V F G P T G C N L E G F F A T L -

tgggcggtgaaattgcactgtggtctctggttagtactggcgatcgagcggtagctgggtg
361 -----+-----+-----+-----+-----+-----+-----+ 420
accggcactttaacgtgacaccagagaccatcatgaccgctagctcgccatgcaccacc

  G G E I A L W S L V V L A I E R Y V V V -

tgtgcaagcccatgagcaacttccgcttcggtgagaaccacgccatcatggcgctgcct
421 -----+-----+-----+-----+-----+-----+-----+ 480
acacgctcgggtactcgttgaaggcgaagccactcttggtgcggtagtagcccgagcggga

  C K P M S N F R F G E N H A I M G V A F -

tcacctgggtcatggctctggcctgtgcccgcgctcgtcggtggtctagatataca
481 -----+-----+-----+-----+-----+-----+-----+ 540
agtggaccagtagcaccgagaccggacacgcccggggcgagcagccgaccagatctatgt

  T W V M A L A C A A P P L V G W S R Y I -

tcccggagggcatgcagtgctcgtgcccgatcgattactacacgcccgcagaggagacca
541 -----+-----+-----+-----+-----+-----+-----+ 600
agggcctcccgtacgtcacgagcacgcocctagctaagtagtggtgcccgtgctcctctggt

  P E G M Q C S C G I D Y Y T P H E E T N -

acaatgagtcggttcgtcatctacatggttcgtggtccacttcatcatcccgtgattgtca
601 -----+-----+-----+-----+-----+-----+-----+ 660
tgttactcagcaagcagtagatgtacaagcaccaggtgaagtagtagggcgactaacagt

  N E S F V I Y M F V V H F I I P L I V I -

tcttctctgctatggccagctggtgttcaccgtcaaggaggctgcagcccagcagcagg
661 -----+-----+-----+-----+-----+-----+-----+ 720
agaagaagacgataccggctcgaccacaagtgccagttcctccgacgtcgggtcgtcgtcc

  F F C Y G Q L V F T V K E A A A Q Q Q E -

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agagcgccaccactcagaaggccgagaaggaggtcacgcggtatggttatcatcatgggtca
721 -----+-----+-----+-----+-----+-----+-----+-----+-----+-----+ 780
tctcgggtggtgagtcttccggctcttccctccagtgcgcataccaatagtagtaccagt
S A T T Q K A E K E V T R M V I I M V I -
tcgctttctaaatctgctggctgccatagctgggtggtggcgttctacatcttcacccatc
781 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 840
agcgaaggattagacgaccgacggtatacgaccacaccgcaagatgtagaagtgggtag
A F L I C W L P Y A G V A F Y I F T H Q -
agggctctgactttgggccatcttcatgaccatcccggcttctcttgccaagacgtctg
841 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 900
tcccgagactgaaacccggtagaagtactggtagggccgaaagaaacggttctgcagac
G S D F G P I F M T I P A F F A K T S A -
ccgtctacaacccggtcatctacatcatgatgaacaagcagttccggaactgcatgggtca
901 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 960
ggcagatggtggccagtagatgtagtactacttgttcgtcaaggccttgacgtaccagt
V Y N P V I Y I M M N K Q F R N C M V T -
ccaactctctgctgtggcaagaacccgctgggtgacgacgaggcgctgaccaccgtctcca
961 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1020
ggtgagagacgacaccggtcttggggcaccactgctgctccgcagctggtggcagaggt
T L C C G K N P L G D D E A S T T V S K -
agacagagaccagccaagtggcgcctgcctaag
1021 -----+-----+-----+-----+-----+-----+-----+-----+-----+ 1053
tctgtctctggtcgggttcaccgcgacggattc
T E T S Q V A P A * -

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Seqüència proteica de l'opsina bovina:

MNGTEGPNFYVPFSNKTGVVRSPEAPQYYLAEPWQFSMLAAYMFLIMLGFPINFLTY  
VTVQHKKLRTPLNILLNLAVADLFMVFGGFTTTLTSLHGYFVFGPTGCNLEGFFATLG  
GEIALWSLVVLAIERVYVVCKPMSNFRFGENHAIMGVAFTWVMALACAAPPLVGWSRY  
IPEGMQCSCGIDYYTPHEETNNESFVIYMFVVHFIPLIVIFFCYGQLVFTVKEAAAQQQES  
ATTQKAEKEVTRMVIIMVIAFLICWLPYAGVAFYIFTHQGSDFGPIFMTIPAFFAKTSAVY  
NPVIYIMMNKQFRNCMVTTLCCGKNPLGDDEASTTVSKTETSQVAPA