Nucleotide sequence for a cDNA encoding the α subunit of retinal transducin (GNAT1) isolated from the human eye

Cornelis Van Dop*, Daniel C. Medynski¹ and Lynne M. Apone

Howard Hughes Medical Institute at Children's Hospital and Harvard Medical School, Boston, MA and

¹Department of Microbiology, University of California, San Francisco, CA, USA

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A cDNA clone (KA27) encoding the α subunit of retinal transducin was isolated from a human eye cDNA library screened with a bovine retinal transducin cDNA probe (1). The human nucleotide sequence is 88% and 65% similar to the sequences of bovine retinal rod transducin (1) and bovine retinal cone transducin (2) respectively. The codons encoding the cysteine (# 1142-1145) and arginine (# 623-625), which are ADP-ribosylated by pertussis toxin (3) and cholera toxin (4) respectively, and the poly-adenylation consensus signal sequence are enclosed in boxes.

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AGGTCTCTCTGGGCCAGAAAGGTTCTCTGGGAGCCAGGTTCTGGGATCCCCCTCCATCCAGAAGAACCACCTGCTCAC
TCTGTCCCTTCGCTGCTGCTGGGACCATGGGGCTGGGGCCAGTCTGAGGAGAAGCACTCCAGGGAGCTG      148
      M G A G A S A E E K H S R E L
GAAAAGAAGCTGAAAGAGGACGCTGAGAAGGATGCTCGAACCGTGAAGCTGCTGTTCTGGGTGCCGGTGAG      15
E K K L K E D A E K D A R T V K L L L L G A G E
TCCGGGAAGCAGCACCATCGTCAAGCAGATGAAGATTATCCACGAGACGGGTACTCGTGGAAAGTGCCTC      292
S G K S T I V K Q M K I I H Q D G Y S L E E C L
GAGTTTATCGCCATCATCTACGGCAACACGTTGCACTCCATCCTGGCCATCGTACGCGCCATGACCACTC
E F I A I I Y G N T L Q S I L A I V R A M T T L
AACATCCAGTACGAGACTCTGCACGCCAGGACGACGCCCGGAAGCTGATGCACATGGCAGACACTATCGAG      436
N I Q Y G D S A R Q D D A R K L M H M A D T I E
GAGGCGACGATGCCCAAGGAGATGTCCGACATCATCCAGCGGCTGTGGAAGGACTCCGGTATCCAGGCGCTGT
E G T M P K E M S D I I Q R L W K D S G I Q A C
TTTGAGCGCGCCTCGGAGTACAGCTCAACGACTCGGCGGGCTACTACCTCTCCGACCTGGAGCGGCTGGTA      580
F E R A S E Y Q L N D S A G Y Y L S D L E R L V
ACCCCGGGCTACGTGCCACCGAGCAGGACGTGCTGCGCTCGGAGTCAAGACCACTGGCATCATCGAGACG      159
T P G Y V P T E Q D V L R S R V K T T G I I E T
CAGTTCTCCTTCAAGGATCTCAACTTCCGGATGTTTCGATGTGGCGGGCAGCGCTCGGAGCCGAGAAGTGG      724
Q F S F K D L N F R M F D V G G Q R S S E P K K W
ATCCACTGCTTCGAGGGCGGTGACCTGCATCATCTTCATCGCGCGGCTGACCGCGTACGACATGCTGCTAGTG      207
I H C F E G V T C I I F I A A L T A Y D M V L V
GAGGACGACGAAGTGAACCGCATGCAGGAGCCCTGCACCTGTTCAACAGCATCTGCAACCACCGCTACTTC      868
E D D E V N R M H E S L H L F N S I C N H R Y F
GCCACGACGTCCATCGTGTCTTCTTAAACAAGAAGGACGTCTTCTCGAGAAGGTCAAGAAGGCGGACCTC      255
A T T S I V L F L N K K D V F F E K V K K A H L
AGCATCTGTTTCCGGGATACGATGACCCCAACACCTAGGAGGACGCGGCAACTACATCAAGGTGCAGTTC      1012
S I C F P D Y D G P N T Y E D A G N Y I K V Q F
CTCGAGCTCAACATGCGGCGGACGTGAAGGAGATCTATTCCACATGACGTGCGCCACCGACGACGAGAAC      303
L E L N M R R D V K E I Y S H M T C A T D T Q N
GTCAAATTCTGCTTCGACGCTGTACCGACATCATCAAGGAGAACCTCAAAGACTGCGGCTCTTCTGA      1156
V K F C F D A V T D I I I K E N L K D C G L F *
GCCAGGGCCTGTGCTGCAGTCCGGGACAAAGGAGCTTCCGTCTGGCAAGGCCGGGACAAATTTGCACTCCCG
TCAGCTAGACGCAGCAGACTCAGCAATAAANCCTTTGCATCAGGCAAAAAAAAAAAAAACAAAAA      1292

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*To whom correspondence should be addressed at: MDCC 22-315 CHS, UCLA Medical Center, 10833 Le Conte Avenue, Los Angeles, CA 90024, USA

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