

# Genomic sequence of IGLV1S2, a human immunoglobulin variable lambda gene belonging to subgroup I

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Only three genomic sequences of human immunoglobulin variable lambda genes have been published (reviewed in ref. 1). We report the second genomic sequence of a V $\lambda$  gene belonging to subgroup I. A clone (cosmid 8.3) was isolated by screening a cosmid library made from the human tumor cell line COLO 320 HSR DNA (2) with the V $\lambda$ II probe pV $\lambda$ 2EK0.3 (3). The cosmid 8.3 clone contains a V $\lambda$  gene which was identified by cross hybridization to that probe at low stringency. This IGLV gene was shown by sequencing, to belong to subgroup I according to reference 1, and was designated as V $\lambda$ 1.2 or IGLV1S2 since it represents the second genomic sequence of a V $\lambda$ I subgroup gene (4) ('IGLV1S' stands for 'human immunoglobulin lambda variable gene belonging to subgroup I', 'IGLV1S2' stands for V $\lambda$ 1.2 following the Human Gene Mapping recommendations (HGM9)). The translation of the sequence shows a peptide leader of 19 codons

with a 109 base pair intron. The heptamer-nonamer recombination signal sequences are underlined. The IGLV1S2 gene encodes a V $\lambda$  region with a 6 amino acid CDR1 region as this is observed in the V $\lambda$ I LOC, MEM, NEWM and HA proteins (see ref. 1). The analysis of the deduced protein sequence of IGLV1S2 shows that the protein NEWM (5) is most probably encoded by the IGLV1S2 gene.

## REFERENCES

1. Chuchana, P. *et al.* (1990) *Eur. J. Immunol.* **20**, 1317–1325.
2. Buluwela, L. *et al.* (1988) *EMBO J.* **7**, 2003–2010.
3. Brockly, F. *et al.* (1989) *Nucl. Acids Res.* **17**, 3976.
4. Alexandre, D. *et al.* (1989) *Nucl. Acids Res.* **17**, 3975.
5. Chen, B. L. *et al.* (1974) *Biochemistry* **13**, 1295–1302.

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GCAGCACTACGACAATCTCCAGC ATG GCC TGG TCT OCT CTC CTC CTC ACT CTC CTC GCT CAC TGC ACA G GTGACTGGATACAGGTCAGGGGAGGGGCCCTGG 103
      M A W S P L L L T L L A H C T
                                     ↓
AAGCCTATGGATTCTTCTTCTCTCTCTAGAACGCCAATAATGATGCTGTGTCTCTCCACTTCCAG GG TCC TGG GCC CAG TCT GTC GTG ACG CAG CCG 210
                                     +1
                                     ↓
CCC TCA GTG TCT GGG GCC CCA GGG CAG AGG GTC ACC ATC TCC TGC ACT GGG AGC AGC TCC AAC ATC GGG GCA GGT TAT GAT GTA CAC TGG 300
P S V S G A P G Q R V T I S © T G S S S N I G A G Y D V H W
Kpn I
TAC CAG CAG CTT CCA GGA ACA GCC CCC AAA CTC CTC ATC TAT GGT AAC AGC AAT CCG CCC TCA GGG GTC CCT GAC CGA TTC TCT GGC TCC 390
Y Q Q L P G T A P K L L I Y G N S N R P S G V P D R F S G S

AAG TCT GGC ACC TCA GCC TCC CTG GCC ATC ACT GGG CTC CAG GCT GAG GAT GAG GCT GAT TAT TAC TGC CAG TCC TAT GAC AGC AGC CTG 480
K S G T S A S L A I T G L Q A E D E A D Y Y © Q S Y D S S L

AGT GGT TCCACAGTCTCCAGGCCGGGGTGGAACTGAGACAAGAACCCTTCTCTCTGCCAGGAGGGTGAGCC 555
S G

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