

## S1 Fig. DNA sequences of nanobodies obtained from the immunized and non-immunized llama cDNA libraries

### Nanobodies obtained from the immune llama cDNA library

Nb-G12

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGAGCTCTCGGAGACTCTACTGTGCGTTCTCGGGAGATAC  
CTTCAATGGCCGTCATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGTTGCCACTATTAGTGCAGTGGT  
GGTCGCACATACTATGCAGGCTCTGTGCTGGGCCGATTACCATCTCCAGAGACAACACCAGGAACACGGTGAGTCTGCAAA  
TGAACAACCTGACACCTGAGGATACGGCCGTTTATTACTGTGCAGCGAAGAGACCGACAGCACTTAGTGATAATTACGACTAC  
AAGACGGAGAATGAATATAAATTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-G18

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGAGCTCTCGGAGACTCTCCTGTGCGTTCTCGGGAGATAC  
CTTCAATGGCCGTCATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGTTGCCACTATTAGTGCAGTGGT  
GGTCGCACATACTATGCAGGCTCTGTGCTGGGCCGATTACCATCTCCAGAGACAACACCAGGAACACGGTGAGTCTGCAAA  
TGAACAACCTGACACCTGAGGATACGGCCGTTTATTACTGTGCAGCGAAGAGACCGACAGCACTTAGTGATAATTACGACTAC  
AAGACGGAGAATGAATATAAATTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-N39

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGAGCTCTCGGAGACTCTCCTGTGCGTTCTCGGGAGATAC  
CTTCAATGGCCGTCATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGTTGCCACTATTAGTGCAGTGGT  
GGTCGCACATACTATGCAGGCTCTGTGCTGGGCCGATTACCATCTCCAGAGACAACACCAGGAACACGGTGAGTCTG  
CAAATGAACAACCTGACACCTGAGGATACGGCCGTTTATTACTGTGCAGCGAAGAGACCGACAGCACTTAGTGATAATTA  
CGACTACAAGACGGAGAATGAATATAAATTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-G2

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGAGCTCTCGGAGACTCTCCTGTGCGTTCTCGGGAGATAC  
CTTCAATGGCCGTCATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGTTGCCACTATTAGTGCAGTGGT  
GGTCGCACATACTATGCAGGCTCTGTGCTGGGCCGATTACCATCTCCAGAGACAACACCAGGAACACGGTGAGTCTG  
CAAATGAACAACCTGACACCTGAGGATACGGCCGTTTATTACTGTGCAGCGAAGAGACCGACAGCACTTAGTGATAATTA  
CGACTACAAGACGGAGAATGAATATAAATTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-40

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGAGCTCTCGGAGACTCTCCTGTGCGTTCTCGGGAGATAC  
CTTCAATGGCCGTCATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGTTGCCACTATTAGTGCAGTGGT  
GGTCGCACATACTATGCAGGCTCTGTGCTGGGCCGATTACCATCTCCAGAGACAACACCAGGAACACGGTGAGTCTG  
CAAATGAACAACCTGACACCTGAGGATACGGCCGTTTATTACTGTGCAGCGAAGAGACCGACAGCACTTAGTGATAATTA  
CGACTACAAGACGGAGAATGAATATAAATTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-32

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGAGCTCTCGGAGACTCTCCTGTGCGTTCTCGGGAGATAC  
CTTCAATGGCCGTCATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGTTGCCACTATTAGTGCAGTGGT  
GGTCGCACATACTATGCAGGCTCTGTGCTGGGCCGATTACCATCTCCAGAGACAACACCAGGAACACGGTGAGTCTG  
CAAATGAACAACCTGACACCTGAGGATACGGCCGTTTATTACTGTGCAGCGAAGAGACCGACAGCACTTAGTGATAATTA  
CGAC

Nb15N310

GTCCAGCTGCAGGCGTCTGGAGGAGGCTTGGTGCAGGCTGGGGGCTCTCTGAGACTCTCCTGTACGTTCTCTGGAGGCAC  
CTTCAATGGCCGTAATATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGCTGCAACTATTAGTGCAGTGGT  
GCGGTCGTACATACTATGCAGAGTCCGTTCTGGGCCGATTACCATCTCCAGAGACAACGCCAGGAACACGGTGATCTG  
CAAATGAACAACCTGACACCTGAGGATACGGCCGTTTATTCTGTGCAGCAAAGAGACCGACACGGCTTAGTGAGAATTA  
CGACTACAAAACGGAGAATGATTATGATTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb11G57

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGGGCTCTCTGAGACTCTCCTGTACGTTCTCTGGAGGCAC  
CTTCAATGGCCGTAATATGGGCTGGTTCCGCCAGGCTCCTGGGAAGGAGCGTGAATTTGCTGCAACTATTAGTGCAGTGGT  
GCGGTCGTACATACTATGCAGAGTCCGTTCTGGGCCGATTACCATCTCCAGAGACAACGCCAGGAACACGGTGATCTG  
CAAATGAACAACCTGACACCTGAGGATACGGCCGTTTATTCTGTGCAGCAAAGAGACCGACACGGCTTAGTGAGAATTA  
CGACTACAAAACGGAGAATGATTATGATTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-N19

GTCCAGCTGGTGGAGTCTGGGGGAGGCTTGGTTCAGCCAGGGGGTCTCTGAGACTCTCCTGTGAGCCTCTGGAAGCGA  
CGTCAGTAGTAATGCCATGGGCTGGTACCGCCAGGCTCCAGGAAGCAGCGGAGTACGTCGAGTATTACTCCTGGT  
GTAGCACAATATCCTGATTCGTTGAAGGGCCGATTACCATCTATAGAAACAACGCCAAGAACACGGTATATCTGCAG  
ATGAACAACCTGAAAACCTGAAGACACGGCCGTTATTACTGTAGTGCAGCTCAAACCTATTGGCTCCTAAACAATACTGGGG  
CCAGGGGACCCAGGTCACCGTCTCC

Nb-T15

GTCCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGGCTGGGGGCTCTCTGAGACTCTCCTGTGAGCCTCTGGACGCAC  
CTCCAGTAGCTATGCCATGGGCTGGTTCCGGCAGGCTCCAGGAAGGAGCGTGAATTTGTAGCAGCTATTAGTGCAGTGGT  
GTAATAGCACACACTATGCAAACCTCCGTGAAGGGCCGATTACCATCTCCAGAGACAACGCCAAGAACACGGTGTATCTG

CAAATGAACGGCCTGAAACCTGAGGACACGGCCGTTTATTACTGTGCAGCCAGGTTCCGGCGTTACGCCTACAGCGCCTC  
CAATTATCCCTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-15N37

GTGCAGCTGCAGGCGTCTGGGGGAGGATTGGTGCAGACTGGGGGATCGCTGAGACTCTCCTGTGCAGCCTCTGAACGCAC  
CAGTAGAACTTATCCCAGGGCCTGGTTTCGCCAACCTCCAGGGAAAGGAGCGTGAATTTGTAGGACTTATTGATTTTAGCG  
GTAATACGCGCTATGCAGATTCGTGAAGGACCGATTACCATCTCCAGAGACAACGCCAAGAGCACGGTGTGCTGCTGCAA  
ATGAACAGCCTGAAACCTGAGGACACGGCCCTTTATTTCTGTGCAGCAACTTCGATCCATACTGGTGGTAGAATGTATGT  
GAACGACTATGACTATAATTATTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-N21

GTGCAGCTGGTGGAGTCTGGGGGAGGCTTGGTGCAGGCTGGGGGCTCTGAGACTCTCCTGTGCACTCTCTGGAAGCAC  
CAGCAGTATCAGTTCCATCGGCTGGTACCGCCAGACTCCAGAGAAGTCGCGCGAGTTTCGTGCGCGCTATTATAATACAG  
GAAGTACAATCTATGAAGATTCCGTGAAGGGCCGATTACCATCTCCAGAGACAACGCCAAGAACACGGTGTATCTGCAA  
ATGAACAGCCTGCAACCTGAGGACACGGCCATGTATTACTGTAACTTTCGCGCCGTGGGGCCGACTGGGGCCAAGG  
GACCCAGGTCACCGTCTCC

Nb-11G59

GTGCAGCTGGTGGAGTCTGGGGGAGGCTTGGTGCAGGCTGGGGGCTCTGAGACTCTCCTGTGTAGCCTCTGGAAGCAT  
CAGCAGTATCAGTGTATGGGCTGGTACCGCCAGGCTCCAGGGAAGCAGCGGAGACTGTGCAAGTATTACTGGTGGTG  
GGTATGGTGGTAGTACACGCTATCGGGACTCCGTGAAGGGCCGATTACCGTCTCCAGAGACAACGCCAAGAATACGATA  
TATCTGCAAATGAACGACCTGAAACCTGAGGACACAGCCGTCTATTATTGTGCAGGCTAACTCGATAGTGTGGTAA  
CAACCGAAACACTTACTGGGGCCAGGGGACCCAGGTCACCGTCTCC

Nb-N21Y

GTCCAGCTGCAGGCGTCTGGGGGAGGATCAGTGCAGGCTGGGGACTCTGACACTCTCCTGTGCAGCCTCTGGACGACC  
CTTCAGCGCCTACCGGATGGGCTGGTTCGCGCATCTCCAGGACACGAGCGTGAATTTGTAGCAACTATTAATGGGGATG  
GCACCCAAATAGACTACGAAAGTCCGTGAAGGGCCGATTACCATCTCCAGAGACAACGCCAAGAACACGGCGTTTCTG  
CGAATGAACAACCTGAAAGCTGAGGACACGGCCATTTACTGTGCGTCACGTAAGTTTCGGGGATCGCTTCGACCCC  
CTTGGCTATGACTTCTGGGGCCAGGGGACCCAGGTCACCGTCTCC

#### Sequences of NdeI1-specific nanobodies

Nb-E2

ATGGCGCAGGTGAAGCTGCAGCAGTCTGGAGGAGGCTCAGTGCAGGTTGGGGGGTCTCTGAGACTCTCCTGTACAGCCTC  
TGGAAGTGCCTTCAATTAATACCATGTCTGGTACCGCGGGCTCCAGGGAAGCAGCGCGAGTTGGTTCGCAACTATTA  
CGAGAAGAGGGACAAACAACTATGCAGACTCCGTGAAGGGCCGATTACCATCTCCAGAGACAACGCCGAGAACACGGTG  
GATCTGCATATGAACAGTCTGAAACCTGAGGACACGGCCGTCTATTACTGTAAGGGATATCGGGCGGATTGGATGACTGA  
CTACTGGGGCCAGGGGACCCAGGTCACCGTCTCCTCA

Nb-E7

ATGGCGAAGGTCCAGCTGCAGGCGTCTGGAGGAGGCTTGGTGCAGCCGGGGGGTCTCTCCAACCTCTCCTGTGTAGCCTC  
TGGATTGTCCTTCACTAAGTCTGGATGTATTGGTCCGTCAAGGCTCAAGGAAAGGGGCTCGAGTGGGTCTCATCTATTA  
ATCCTAGCGGTAGTTTTACATCTTATACAGACTCCGCGAAGGGCCGTTACCATCTCCAAAGCCAACGACGGGCACACG  
GTGTATTTGCAAATGAACAACCTGAAACCTGAGGACACAGGCGTCTATTATTGTGGATTAGGGTCATGGTCAGAATTGGA  
ATATTCCTATAGTTACTGGGGCCGGGGGACCCAGGTCACCGTCTCCTCA

Nb-E9

ATGGCGCAGGTGAACTGCAGGAGTCAAGGGGAGGCTCGGTGCAGCACGGGGGGTCTCTGAGACTCTCCTGTGTAGCCTC  
TGGATTGTCCTTCACTAAGTCTGGATGTATTGGTCCGTCAAGGCTCAAGGAAAGGGGCTCGAGTGGGTCTCATCTATTA  
ATCCTAGCGGTAGTTTTACATCTTATACAGACTCCGCGAAGGGCCGTTACCATCTCCAAAGCCAACGACGGGCACACG  
GTGTATTTGCAAATGAACAACCTGAAACCTGAGGACACAGGCGTCTATTATTGTGGATTAGGGTCATGGTCAGAATTGGA  
ATATTCCTATAGTTACTGGGGCCGGGGGACCCAGGTCACCGTCTCCTCA

Nb-H3

ATGGCGGAGGTCAAACCTGCAGGAGTCAAGGGGAGGCTTGGCACAGTCCGGGGGGTCTCTGAGACTCTCCTGTGCGCCGCA  
ATTAGGTGCACACACTATCGTGGCCATGGGTTGGTACCGCCAACCTCCCGATAGTCAGCGCGAATTTGTGCGGATGCTTT  
TTGCTAATGGAATTAACAGTTACAATGAAGCCGTGAAGGGCCGTTACCATCTCCAGAGACGACGCCAAGAACACGATG  
TATCTGCAAATGAACAACCTGAAACCTGAGGACACAGGCGTCTATTACTGTAAGATATATGATCACTCAATTATGACTGA  
CTACTGGGGCCAGGGGACCCAGGTCACCGTCTCCTCG

Nb-G6

ATGGCGGATGTGCAGCTGCAGGCGTCTGGAGGAGGCTTGGTGCAGCCTGGGGCATCTCTGAGATTGTCTGTGTAAGTAC  
TCGAAATACCTTCACTATCGATCCCATGTCTGGTACCGCCGGGCTCCAGGAAAGGGGCTCGAGTGGGTCTCAGGTATTA  
GTAATCGTGGTGGTAGCACAAAGCTATGCAGACTCCGTGAAGGGCCGATTACCATTTCCAGAGACAACATCAAGAGTACG  
CTGTATCTGCAAATGAACAGTCTGAAACCAGAGGACACAGCCGTCTATTACTGTAATGCAGATGCAAGTAGGTGGGGTTC  
CTGGGGCCAGGGGACCCAGGTCACCGTCTCCTCG