

Construction of the DG deletion mutants

For the construction of the DG deletion mutants, the following cDNA fragments amplified by PCR on rabbit DG cDNA (Ibraghimov-Beskrovnaya et al., 1992) were inserted into DgDisplay: DGI (DH30-R168), FP-DGN1b (digested with HindIII and ScaI) and DGC1f-Fub (digested with FspI and SacI); DGD (Δ C182-H315), FP-Dub (digested with HindIII and NaeI) and SmaI1119-XhoI1284 (derived from DGE); DGE (Δ H30-A316), Euf-Eub (digested with XmaI and SacI); DGF (Δ T317-P408), Fuf-Fub (digested with ApaI and NaeI) and Fnf-Fdb (digested with SmaI and SacI); DGG (Δ G409-S485), Guf-Gnb (digested with XhoI and SmaI) and Fdf-Fdb (digested with NaeI and BamHI); and DGH (Δ H30-S485), Huf-Fdb (digested with XmaI and MfeI). All deletion mutants were verified by double-strand DNA sequencing. Mutants DGD and DGE have the amino acid exchange A316G. All other manipulations resulted in silent mutations.

Primers

FP: 5'-CCCACTGCTTACTGGCTT-3'
 DGN1b: 5'-GGGCCAAGTACTCTGAGCCACGGCCAC-3'
 DGC1f: 5'-GTGTGCGCAGCCTCTCCAGACCTGGGC-3'
 Fub: 5'-TGTGGGGCCGGCATGGATCTGCCTTCGGAT-3'
 Dub: 5'-GGCAGCGCCGGCAGACGCCGCCGCCTC-3'
 Euf: 5'-AGGCAGATCCCCGGGACACCCACACCTGTCCTACTGCC-3'
 Eub: 5'-GGCGTCCACCCTGTCGATGTGGTT-3'
 Fuf: 5'-ATGGCCGGCCCCGGAAACGCC-3'
 Fub: 5'-TGTGGGGCCGGCATGGATCTGCCTTCGGAT-3'
 Fnf: 5'-ACCATTCCCGGGTACGTGGAGCCCACA-3'
 Fdf: 5'-ACCACCGCCGGCGTCCCCCGGGGGA-3'
 Fdb: 5'-GTCTGGCACCTCCGTGGGTGG-3'
 Guf: 5'-CCTGTTCTTGGGAAGCCCACG-3'
 Gnb: 5'-CACGTACCCGGGAATGGTCACCGTTGC-3'
 Huf: 5'-ATCCGCACCACCCCGGGGGGTGCCCGCGGGGGA-3'

Construction of α -DG-Fc fusion proteins

Using the expression construct IgG1FcpcDNA3 (Chen et al., 1996), α -DG-Fc fusion proteins containing the following sequences of α -DG were made: DGFc1, amino acids 30–181; DGFc2, amino acids 30–316; DGFc3, amino acids 30–408; DGFc4, amino acids 30–485; and full-length α -DG-Fc, DGFc5, amino acids 30–653. For the construction of DGFc1-5, human IgG1FcpcDNA3 was digested first with BamHI (filled in with EcoPolI Klenow enzyme for DGFc1-4) and then digested with KpnI. The following cDNA fragments generated by PCR were inserted into human IgG1FcpcDNA3 digested with BamHI and KpnI: DGFc1, FP-Dub (digested with PflMI and NaeI); DGFc2, Fuf-Fub (digested with ApaI and NaeI); DGFc3, Guf-Gnb (digested with XhoI and SmaI); DGFc4, Guf-Gub (digested by XhoI and ScaI); and DGFc5, Fdf-DGFcb (digested with SacI and BamHI).

Primers

Gub: 5'-GGGCACAGTACTGGTGGTGGTGC GGATACG-3'
 DGFcb: 5'-CGGAGGATCCCCCGGGGTGATGTTCTGCAG-3'

Detection of LCMV ARM53b and clone-13 in spleen tissue by in situ hybridization

Fig. 4, showing the detection of LCMV ARM53b and clone-13 by in situ hybridization in spleen tissue with hematoxylin-eosin counter staining, has been modified from Borrow et al. (Borrow, P., C.F. Evans, and M.B. Oldstone. 1995. *J. Virol.* 69: 1059–1070).