



Supplementary Figure S1 Mice response to HSA does not change due to RIT immunization. IgG titer against carrier protein anti-HSA in mice that were immunized with either 0.2% HSA, LMB-T20+0.2% HSA or SS1P+0.2% HSA. (a) Before immunization, (b) After 2 weeks of weekly immunizations, (c) After five immunizations, (d) After six immunizations.

Supplementary Table S1 Amino acid sequence of peptides used in alanine scan

| Peptide name | Amino acid sequence |
|-----------------|-----------------------|
| WT 13-15 | GYPVQRLVALYLAARLSWNQV |
| 13-15 G288A | AYPVQRLVALYLAARLSWNQV |
| 13-15 Y289A | GAPVQRLVALYLAARLSWNQV |
| 13-15 P290A | GYPVQRLVALYLAARLSWNQV |
| 13-15 V291A | GYPVQRLVALYLAARLSWNQV |
| 13-15 Q292A | GYPVQRLVALYLAARLSWNQV |
| 13-15 R293A | GYPVQRLVALYLAARLSWNQV |
| 13-15 L294A | GYPVQRLVALYLAARLSWNQV |
| 13-15 V295A | GYPVQRLVALYLAARLSWNQV |
| 13-15 A296G | GYPVQRLVALYLAARLSWNQV |
| 13-15 L297A | GYPVQRLVALYLAARLSWNQV |
| 13-15 Y298A | GYPVQRLVALYLAARLSWNQV |
| 13-15 L299A | GYPVQRLVALYLAARLSWNQV |
| 13-15 A301G | GYPVQRLVALYLAARLSWNQV |
| 13-15 A302G | GYPVQRLVALYLAARLSWNQV |
| 13-15 R303A | GYPVQRLVALYLAARLSWNQV |
| 13-15 L304A | GYPVQRLVALYLAARLSWNQV |
| 13-15 S305A | GYPVQRLVALYLAARLSWNQV |
| 13-15 W306A | GYPVQRLVALYLAARLSWNQV |
| WT 57-58 | FVGYHGTFLAAQSIVFG |
| 57-58 F436A | AVGYHGTFLAAQSIVFG |
| 57-58 V437A | FAGYHGTFLAAQSIVFG |
| 57-58 G438A | FVAYHGTFLAAQSIVFG |
| 57-58 Y439A | FVGAHGTFLAAQSIVFG |
| 57-58 H440A | FVGYAGTFLAAQSIVFG |
| 57-58 T442A | FVGYHGAFLAAQSIVFG |
| 57-58 F443A | FVGYHGTALAAQSIVFG |
| 57-58 L444A | FVGYHGTFAAAQSIVFG |
| 57-58 A446G | FVGYHGTFLAQAQSIVFG |
| 57-58 A447G | FVGYHGTFLAQAQSIVFG |
| 57-58 S449A | FVGYHGTFLAAQAIVFG |
| 57-58 I450A | FVGYHGTFLAAQSAVFG |
| 57-58 V451A | FVGYHGTFLAAQSAIFG |
| 57-58 F452A | FVGYHGTFLAAQSIVAG |

Amino acids that were mutated are labeled in red