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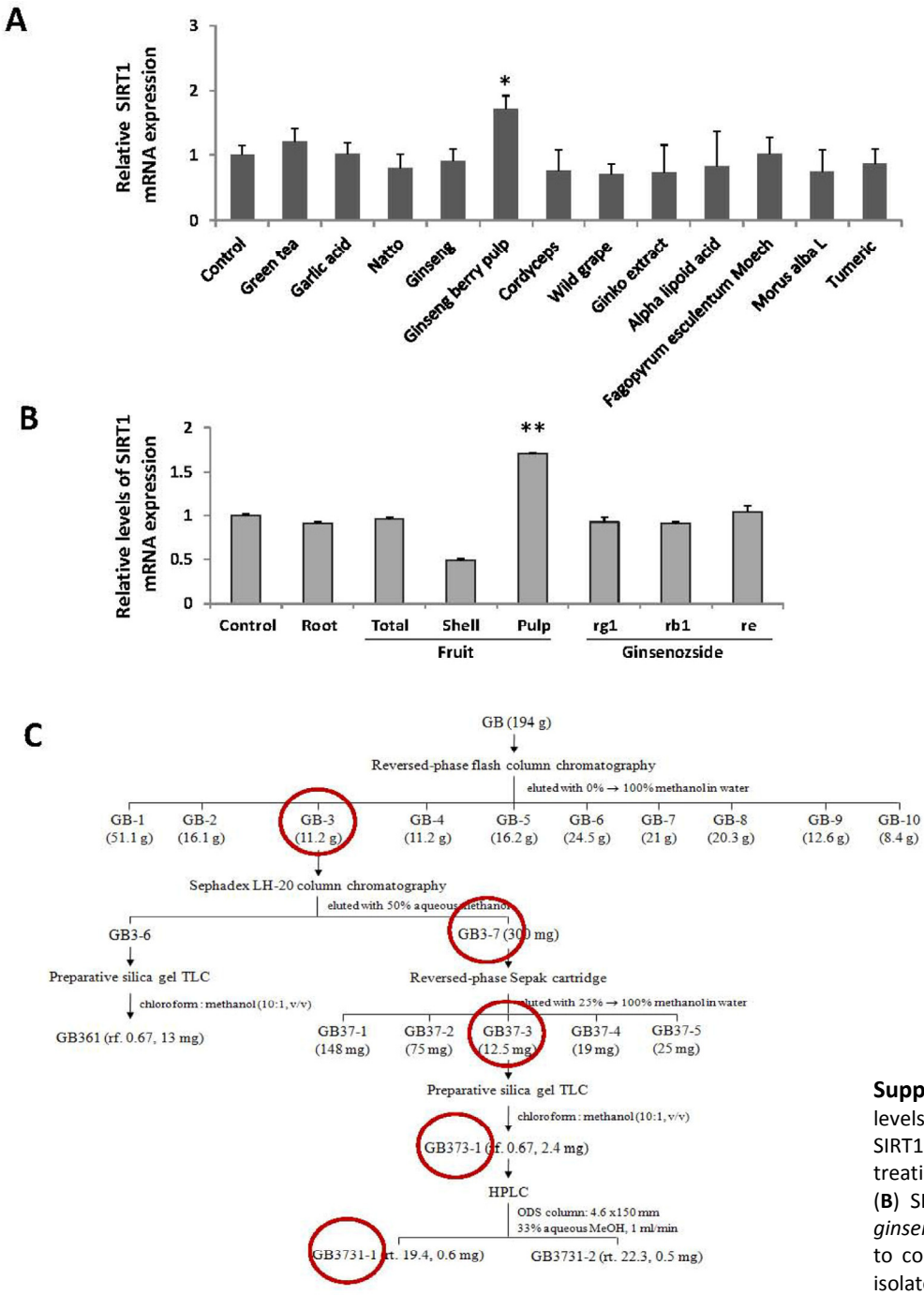
**13.** Mattagajasingh I, Kim CS, Naqvi A, Yamamori T, Hoffman TA, Jung SB, DeRicco J, Kasuno K and Irani K. SIRT1 promotes endothelium-dependent vascular relaxation by activating endothelial nitric oxide synthase. Proc Natl Acad Sci U S A. 2007; 104:14855-14860.

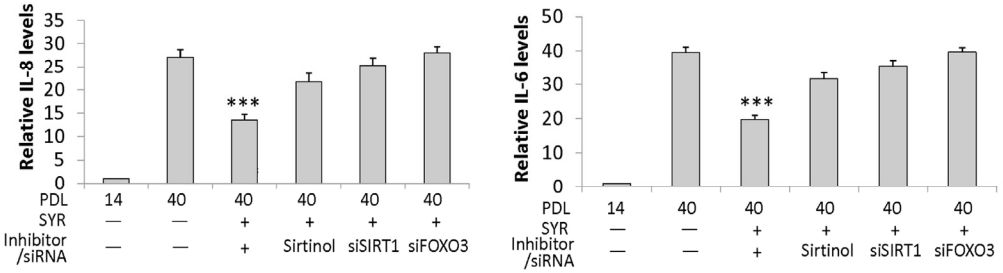
## SUPPLEMENTAL DATA

**Supplemental Table 1.** Primers used for generation of luciferase reporter constructs with various sizes of the *SIRT1* promoter and mutagenesis

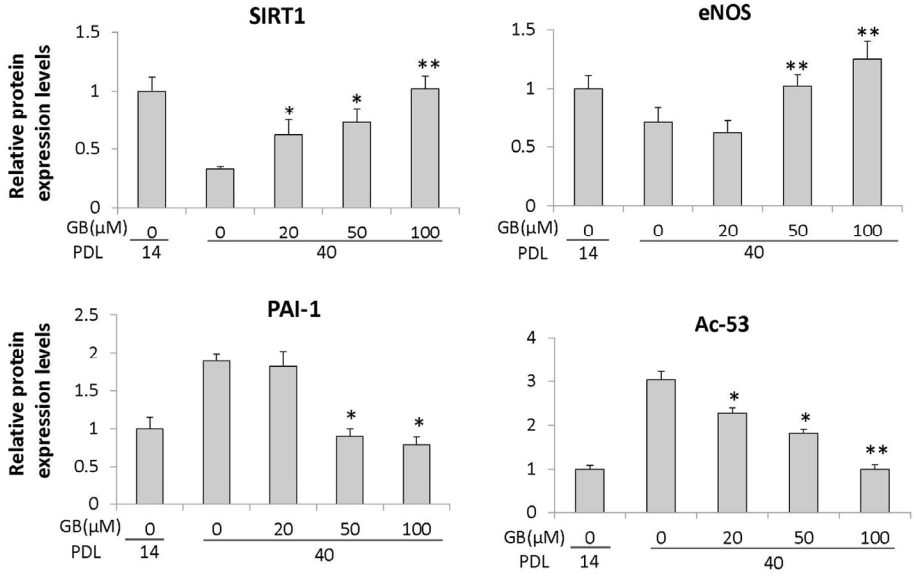
| Amplicon | Primer sequence |
|---|---|
| ***SIRT1 promoter cloning*** | |
| 1596bp Forward | 5'-CATCACGCGTGTTCTTAACCAGTGGTAGACCAGAA-3' |
| 1083bp Forward | 5'-TTCAGGGAGA GAGGAAAGTG GAAG-3' |
| 773bp Forward | 5'-TTTGAAGCCA AGCTGGGGCC AGAA-3' |
| 553bp Forward | 5'-GGAGCCGCCT CCTTTTGCCT CTCT-3' |
| 377bp Forward | 5'-CATCACGCGTCGGACCAAAACTTGAGCTGT |
| 299bp Forward | 5'-CATCACGCGTCGAATTTGGCTGCACTACAC |
| 211bp Forward | 5'-CATCACGCGTAGACGCAACAGCCTCCGCC |
| 164bp Forward | 5'-CATCACGCGTGGCCCGCGTGGGTGGCGGG |
| All sizes' Reverse | 5'-CATGCTCGAGCTTCCAACTGCCTCTCTGGC |
| ***FOXO3 site directed mutagenesis*** | |
| Site1 Forward | 5'-CTCTTCCTACTTATTAACGGGACAGAACGACTATCCAACGTATTTCAGGG-3' |
| Site1 Reverse | 5'-CCCTGAAATACGTTGGATAGTCGTTCTGTCCCGTTAATAAGTAGGAAGAG-3' |
| Site2 Forward | 5'-TAGCCAGCTTCAGCTGTGCCCTAACCCTTAGCTAAATATAGACAAGGCTA-3' |
| Site2 Reverse | 5'-TAGCCTTGTCTATATTTAGGCTAAGGGTTAGGGCACAGCTGAAGCTGGCTA-3' |




**Supplemental Figure 1.** Measurement of SIRT1 levels for identification of *SIRT1* gene activator. (**A**) SIRT1 mRNA levels measured by qRT-PCR after treating HUVECs with the extracts from 12 herbs. (**B**) SIRT1 mRNA levels in various part of *Panax ginseng* were measured by qRT-PCR and compared to control (non-treated). (**C**) Purification steps to isolate a bio-active compound, from *Panax ginseng* berry (GB) extracts. Fractions that induced SIRT1 mRNA levels in HUVECs are indicated in circles. GB-3731-1 was found to be syringaresinol. See Methods for detailed information. (**D**) Cytotoxicity of syringaresinol was tested by treating HUVECs with the indicated concentration of syringaresinol for 24 h. Data are mean ± S.E. of triplicate determinations.




**Supplemental Figure 2.** IL-6 and IL-8 produced by cells with indicated treatment were determined by ELISA and the relative levels to PDL14 were compared. The results are mean ± S.E of four independent experiments and significance was assessed by *t*-test. *** P < 0.005.




**Supplemental Figure 3.** Quantification of the protein levels shown in the Fig 4. The results are means ± S.E of three independent experiments. Significance was assessed by *t*-test. *P < 0.05, **P < 0.01.