synthesize first-stranded cDNAs. The resultant cDNAs were examined by real-time PCR with specific primers for *Photinus* and *Renilla luciferase*. RNA expression levels for *Photinus luciferase* are normalized against those of *Renilla luciferase*, and the ratios of *Photinus luciferase* RNA expression levels in the presence of the si(T9/C10) or si(T11/C12) duplexes are normalized against the ratios obtained in the presence of the siControl duplex. Data are averages of at least three independent determinations. Error bars represent standard deviations.

CONCLUSIONS

The present assay system with wild-type- and mutant-reporter alleles could permit assessment of siRNA duplexes having the potential for specifically inhibiting the expression of the mutant allele without inhibiting the expression of the wild-type allele, and thus contribute to the design and selection of siRNA duplexes suitable for allele-specific gene silencing.

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STATEMENT OF COMPETING INTERESTS

Corresponding author has a pending patent on the method of this paper.

LIST OF ABBREVIATIONS

ASP-RNAi; Allele-specific RNA interference
APP; Amyloid precursor protein
TK; Thymidine kinase
UTR; Untranslated region
sAPP; Secreted APP
cAPP; Celluar APP
Aβ; Amyloid β

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