

## Development of novel therapeutic strategies for atopic dermatitis targeting at filaggrin

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Filaggrin plays a crucial role in epidermal barrier formation. Recently, loss-of-function mutations in the gene encoding filaggrin (*FLG*) have been shown to predispose to atopic dermatitis. Since most of the *FLG* mutations identified are a nonsense mutation, we, in this study, aimed to develop novel therapeutic strategies for atopic dermatitis targeting at nonsense mutations in *FLG*. First, we performed mutation analysis of *FLG* to clarify the mutation frequency in the Japanese population and showed that 10% of the population carry one or more *FLG* mutations. Subsequently, we established reporter gene assays that can detect readthrough efficacy and performed compound screening by using these assays. Notably, we identified about 50 potential hits from the compound libraries. These results would open a new avenue for developing more effective and specific therapies for this intractable disease.