

Publication**HISTONE DEACETYLASE6 Controls Gene Expression Patterning and DNA Methylation-Independent Euchromatic Silencing****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 3693962**Author(s)** Hristova, Emilija; Fal, Kateryna; Klemme, Laurin; Windels, David; Bucher, Etienne**Author(s) at UniBasel** [Boller, Thomas](#) ; [Robinson, Emilia](#) ; [Fal, Kateryna](#) ; [Klemme, Laurin](#) ;**Year** 2015**Title** HISTONE DEACETYLASE6 Controls Gene Expression Patterning and DNA Methylation-Independent Euchromatic Silencing**Journal** Plant Physiology**Volume** 168**Number** 4**Pages / Article-Number** 1298-308

To investigate the role of chromatin regulators in patterning gene expression, we employed a unique epigenetically controlled and highly tissue-specific green fluorescent protein reporter line in Arabidopsis (*Arabidopsis thaliana*). Using a combination of forward and reverse genetic approaches on this line, we show here that distinct epigenetic regulators are involved in silencing the transgene in different tissues. The forward genetic screen led to the identification of a novel HISTONE DEACETYLASE6 (HDA6) mutant allele (epigenetic control1, *hda6-8*). This allele differs from the previously reported alleles, as it did not affect DNA methylation and only had a very modest effect on the release of transposable elements and other heterochromatic transcripts. Overall, our data shows that HDA6 has at least two clearly separable activities in different genomic regions. In addition, we present an unexpected role for HDA6 in the control of DNA methylation at CG dinucleotides.

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