

**Supplemental Table S1.** Analysis of MpHAs based on amino acid sequences.

The first column shows the percentage of amino acid identity between the catalytic domain of MpHAs and AHA2. The second column shows deduced molecular masses of MpHAs. n.a., Not available. <sup>a</sup>Amino acid identity of MpHA1 and MpHA5 is incomplete because of a lack of sequencing information. <sup>b</sup>The H<sup>+</sup>-ATPase from *A. thaliana* (AHA2) has a deduced molecular mass of around 104.4 kD.

Name	Amino acid identity (%)	Deduced molecular mass <sup>b</sup> (kD)
MpHA1 <sup>a</sup>	85.6	n.a.
MpHA2	83.0	104.9
MpHA3	80.6	105.0
MpHA4	80.6	104.4
MpHA5 <sup>a</sup>	85.8	n.a.
MpHA6	70.7	120.0
MpHA7	74.9	95.9
MpHA8	73.0	95.6