

# **Identification of neutral and acidic sphingomyelinases in helicobacter pylori**

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摘要.

We demonstrated for the first time the presence of sphingomyelinase (SMase) in *Helicobacter pylori*. Activation of SMase has been implicated as the cause of elevation of cellular ceramide levels and consequently of apoptosis. The data indicate that there are two classes of SMase, defined by their optimal pHs and cellular locations, existing in *H. pylori*. One is an Mg(2+)-dependent membrane-bound enzyme with an optimal activity at pH 7, and the other is an Mg(2+)-independent cytosolic enzyme with an optimal activity at pH 5. Bisalumin, a bismuth salt, was found to inhibit the activities of both forms of SMase regardless of the presence of Mg<sup>2+</sup>. By Western blot analysis, the membrane-bound SMases of *H. pylori* and *Bacillus cereus* were shown to be antigenically related and to have a similar denatured molecular mass of 28 kDa.