

# **Pathogenic Human Monoclonal Antibody Against Desmoglein 3**

葉斯維

**Yeh SW;Cavacini LA;Bhol KC;Lin MS;Kumar M;Duval  
M;[Posner MR;Ahmed AR]**

摘要

## **Abstract**

Pemphigus vulgaris (PV) is a potentially fatal autoimmune mucocutaneous disease associated with production of IgG autoantibodies to desmoglein 3 (Dsg3), a 130-kDa epidermal cadherin protein. The binding of pathogenic antibody to Dsg3 on epidermal keratinocytes leads to loss of intercellular adhesion and results in intraepithelial blister formation. Here, we describe a human monoclonal antibody, PVMAB786, a Dsg3-specific IgG4 antibody, from an untreated patient with active PV. The antibody reacts with a 130-kDa protein on keratinocyte cell surfaces and recombinant Dsg3 protein, but not desmoglein 1 protein. PVMAB786 induces acantholysis in normal human skin and mucous membranes and induces a clinical and histological profile similar to human PV when injected into neonatal mice. PVMAB786 will be a valuable tool in identifying the role of Dsg3 in epithelial cell adherence and acantholysis, mechanisms of Dsg3 processing/presentation and V gene and isotype usage in PV pathogenesis.