

**Abstract from “Recent progress in dengue vaccine research and development”: Curr Opin Mol Ther. 2010;12(1):31-8.**

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Recent data suggest that dengue immunity could be elicited via either the humoral or cell-mediated routes. Directing the immune response to serotype-specific epitopes from domain III (DIII) of Envelope protein (Env) may induce effective levels of neutralising antibodies. Removing serotype cross-reactive epitopes from DIII and domain II (DII) may reduce the potential to induce non-neutralising antibodies associated with antibody-dependent enhancement of infection (ADE). Use of consensus Env DIII sequences for each serotype, and perhaps even a single consensus sequence for all four serotypes, may direct the immune response to substantially invariant neutralising sequences, which might improve vaccine safety and long-term efficacy. Vaccines incorporating capsid and / or non-structural (NS) proteins may be able to induce tetravalent cell-mediated immunity without ADE. However, the potential of cell-mediated immunity to contribute to pathology is not well understood, and modifications of NS proteins, for example truncated NS1, may be necessary for optimal vaccine safety. Here we review papers, from August 2008-August 2009, relevant to the above issues.

**Keywords:** dengue, vaccine, flavivirus, travel vaccine, dengue haemorrhagic fever, dengue shock syndrome.

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