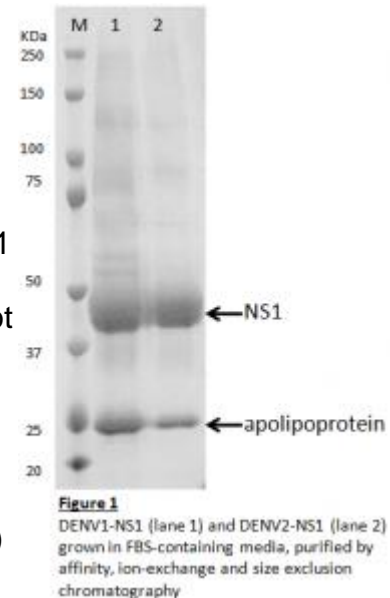


## Dengue Virus NS1 apolipoprotein interaction described

A Dengue Virus NS1 apolipoprotein co-purification has been observed by Native Antigen Company scientists, with possible important consequences for NS1 research.

Scientists at The Native Antigen Company discovered during research on optimal expression methods that dengue virus NS1, recombinantly expressed in cells cultured in foetal bovine serum (FBS) and purified by affinity, ion exchange and size exclusion chromatography co-purified with a protein of 26 kDa in size. The identity of this protein was confirmed to be bovine apolipoprotein A-1 by mass spectrometry. When cells were cultured in medium free of FBS the apolipoprotein A-1 band could not be detected in the final product. Members of the apolipoprotein family have been found to interact with dengue NS1 in a yeast-two-hybrid assay before (3) and Dengue NS1 has also been shown to interact with STAT3beta (2), complement factors C1q and C4b (3) (4), ribosomal protein RPL18 and ribonucleoprotein C1/C2 (5) (6).



Using dengue NS1 antigen contaminated with its bovine interaction partner(s) can have wide-reaching consequences for mapping interactions, serology testing and raising of antibodies against NS1. Some commercially available dengue NS1 products also possessed the characteristic apolipoprotein band, and both recombinant and native-grown virus NS1 could be affected. To avoid contamination of NS1 preparations with protein(s) of bovine origin, the Native Antigen Company products are exclusively manufactured in serum-free media.

Dengue virus is an arthropod-borne virus that infects up to 400 million individuals annually. Upon infection, the virus expresses 3 structural and 7 non-structural proteins. Non-structural protein 1 (NS1) is involved in viral replication and is secreted into the bloodstream as a hexameric open-barrel shaped lipoprotein. This makes NS1 an excellent target for serology based diagnostics of an active infection (1). All serotypes (without the NS1 apolipoprotein!) are available from our web-site.

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