

# CLONING, CHARACTERIZATION, AND EXPRESSION OF VITELLINE PROTEIN BI AND ITS ENCODING GENE IN THE LIVER FLUKE, *FASCIOLA GIGANTICA*

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**Abstract.** A cDNA containing a 813 bp open reading frame encoding vitelline protein BI (FgVPBI) of *Fasciola gigantica* was cloned. FgVPBI has 96% sequence identity with VPBI of *Fasciola hepatica* and 84% identity with VPBII *F. hepatica*. It is far less similar to eggshell precursor proteins of other trematode species, for example, 29% identity with *C. sinensis*. Northern blot hybridization of total RNA from adult parasites demonstrated a FgVPBI transcript with a size of 1,000 nucleotides. FgVPBI mRNA is localized in the vitelline cells in both vitelline glands and intrauterine eggs. Recombinant FgVPBI was expressed as a 31.5 kDa protein in *Escherichia coli* and used for production of a polyclonal antiserum in rabbits. The FgVPBI antiserum detected immunoblotted rFgVPBI and native eggshell precursor protein at molecular weights of 31.5 kDa and 31 kDa, respectively. Immunolocalization showed strong staining in the cytoplasm of vitelline cells, in eggshell globules and the shells of eggs.

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