NUP82 encodes an essential nuclear pore protein that was first isolated by its physical association with Nsp1p. Transport of macromolecules between the nucleus and the cytoplasm of eukaryotic cells occurs through the nuclear pore complex, a large macromolecular complex that spans the nuclear envelope. The structure of the vertebrate NPC has been studied extensively; recent reviews include 15, 16, 17, and 18. The yeast NPC shares several features with the vertebrate NPC, despite being smaller and less elaborate. Many yeast nuclear pore proteins, or nucleoporins, have been identified by a variety of genetic approaches. The Nup82p-Nsp1p subcomplex also includes Nup159p, and is found exclusively at the cytoplasmic periphery of the nuclear pore. This complex is distinct from the subcomplex comprising Nsp1p, Nup49p, Nup57p, and Nic96p. PI,PF,PH,PR, At the Nup82Delta108 restrictive temperature, Nup159p is lost from the nuclear pore. Mutations in NUP82 are synthetically lethal with mutations in several other nucleoporin genes.