

PYNOD, a Novel Apaf-1/CED4-like Protein is an Inhibitor of ASC and Caspase-1

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Recently, a large subfamily of nucleotide-binding and oligomerization domain-containing proteins that have an N-terminal pyrin-like domain and C-terminal leucine-rich repeats has been described. In this study, we identified PYNOD, a novel member of this family that lacks the leucine-rich repeats. We found that human PYNOD mRNA is expressed in various tissues and at high levels in heart, skeletal muscle, and brain. It is also expressed in various cell lines, including haematopoietic cell lines. PYNOD oligomerizes and binds to ASC, an adaptor protein that plays a role in apoptotic and inflammatory signal transduction, and to caspase-1 and IL-1 β . PYNOD inhibits ASC-mediated NF- κ B activation and apoptosis, and caspase-1-mediated IL-1 β maturation, and it does so in the presence and absence of constitutively active mutants of CARD12 and PYPAF1, which are enhancers of these processes. Thus, PYNOD is a novel regulator of apoptosis and inflammation. (Wang, Y. et al., *Int. Immunol.* 16:777-86, 2004)

Figure

PYNOD is a member of Apaf-1-like proteins and inhibits ASC-mediated NF- κ B activation and apoptosis, and caspase-1-mediated IL-1 β activation.

