

## Isoforms of JSAP1 Scaffold Protein Generated through Alternative Splicing

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We have identified four isoforms of the scaffold protein JSAP1, termed JSAP1a, JSAP1b, JSAP1c, and JSAP1d. The previously identified JSAP1 was renamed JSAP1a to avoid confusion. Analyses of the exon-intron structure of the JSAP1 gene indicated that the isoforms are generated through alternative splicing involving exons 5 and 6. The mRNA expression levels of the JSAP1 isoforms differed among the mouse tissues examined. We also investigated the region of JSAP1 responsible for its interaction with JNK, and found that the JNK-binding domain is located between amino acid (aa) residues 201-217 in JSAP1a, which is encoded by part of exon 6. As all the JSAP1 isoforms contain this binding domain, we examined the binding affinity of the JSAP1 isoforms for JNK1, JNK2, and JNK3 MAPKs. JSAP1c and JSAP1d, which contain a 31-aa sequence not present in JSAP1a or JSAP1b, had a lower binding affinity for the JNKs, especially JNK3. These results suggest that *in vivo*, JSAP1c and JSAP1d may attenuate the scaffolding activity of JSAP1a and/or JSAP1b in JNK cascades, especially the JNK3 cascade, by interfering with the interaction with JNKs.

