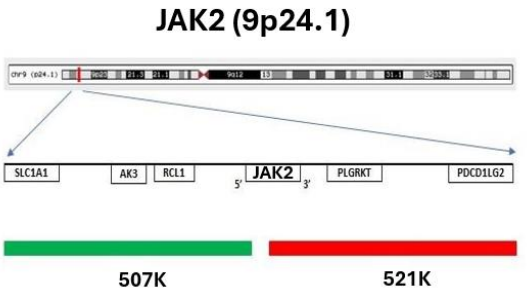
## BRIGHTDOM FISH Probes: JAK2 (9p24.1) Break-apart




**Gene:** JAK2 (9p24.1); Telomere 5'-3' Centromere
**5' region (green):** hg38: chr9:4,487,284-4,994,824
**Target size:** 507K
**3' region (orange):** hg38: chr9:5,072,551-5,593,252
**Target size:** 521K
**Functionally critical region:** 3' JAK2, labeled orange.

**Introduction:** The JAK2 (9p24.1) break-apart FISH probes are optimized to detect translocations involving the JAK2 gene region at 9p24.1.

**5' JAK2 region (green):** The 5' region of JAK2 (9p24.1) gene locus is labeled with a green dye.

**3' JAK2 region (orange):** The 3' region of JAK2 (9p24.1) gene locus is labeled with an orange dye.

**Functionally critical region (orange):** The 3' JAK2 gene is labeled with an orange dye.

**Signal Patterns:** The JAK2 (9p24.1) break-apart FISH probes are designed as dual-color break-apart probes to detect translocations involving the JAK2 gene at 9p24.1. A specimen considered positive for the JAK2 gene rearrangement shows a separation of orange and green signals (1F1G1O). Because the functional region of JAK2 (3'JAK2) is labeled with an orange dye, the signal pattern of one fusion and one green (1F1G) indicates a deletion of 9p, while the signal pattern of one fusion and one orange (1F1O) might represent a rearrangement of the JAK2 gene (with a deletion of the 5' region of JAK2). If clinically indicated, additional tests might be warranted.