Supplemental Table 1. Immunoprofile and Molecular Findings of rare BCOR variant fusions *KMT2D-BCOR* and *BCOR-CHD9* in undifferentiated round and spindle cell sarcomas.

| Age/Sex | Site       | Fusion genes (exon)* | BCOR FISH | NTRK3 mRNA up-regulation | Immunohistochemistry |
|---------|------------|----------------------|-----------|--------------------------|---------------------|
|         |            |                      |           |                          | Pan-Trk  | BCOR | NTRK1 | H3K27me3 | TLE1   |
| 38/M    | scapula    | KMT2D (39)-BCOR (6)  | −         | +                        | + (95%, strong)   | +       | −     | Loss    | +      |
|         |            | BCOR (4)-KMT2D (22)  |           |                          |                     |         |       |         |        |
| 10/F    | pelvic     | KMT2D (42)-BCOR (4)  | −         | +                        | + (60%, moderate) | +       | −     | NA      | +      |
|         |            | BCOR (1)-KMT2D (29)  |           |                          |                     |         |       |         |        |
| 41/F    | kidney     | BCOR (1)-CHD9 (2)    | +         | +                        | + (100%, strong)  | −       | −     | Loss    | NA     |
|         |            | CHD9 (2)-BCOR (4)    |           |                          |                     |         |       |         |        |

*The most abundant exon compositions are shown for fusion transcripts with multiple different fusion junctions. NA, not available.
Supplementary Figure 1. No *NTRK1* (A-B) or *NTRK2* (C-D) up-regulation was observed in BCOR family tumors in both platforms (A&C, whole transcriptome sequencing; B&D, targeted RNA sequencing) (expression levels in RPKM).
Supplementary Figure 2. Solitary fibrous tumors showed diffuse and strong NTRK1 immunoreactivity.