

# PRODUCT INFORMATION



## BARD1 BRCT domains (human, recombinant)

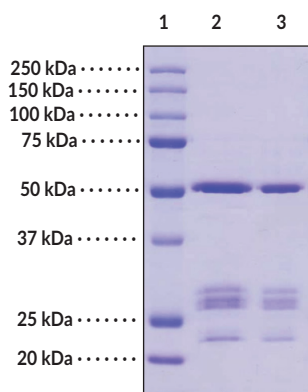
Item No. 14166

### Overview and Properties

**Synonyms:** BRCA1-Associated RING Domain Protein 1  
**Source:** Recombinant N-terminal GST-tagged protein expressed in *E. coli*  
**Amino Acids:** 554-777  
**Uniprot No.:** Q99728  
**Molecular Weight:** 52.4 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥2 years  
**Purity:** *batch specific* (≥60% estimated by SDS-PAGE)  
**Supplied in:** 50 mM Tris, pH 8.0, with 150 mM sodium chloride and 20% glycerol  
**Protein Concentration:** *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Image



Lane 1: MW Markers  
Lane 2: BARD1 BRCT domains (4 µg)  
Lane 3: BARD1 BRCT domains (2 µg)

Representative gel image shown; actual purity may vary between batches.

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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## Description

BRCA1-associated RING domain protein 1 (BARD1) is a binding partner of the breast and ovarian tumor suppressor (BRCA1).<sup>1-2</sup> BARD1 binding to BRCA1 via the RING and BRCT domains regulates BRCA1 stability, cellular localization, and function.<sup>2-4</sup> Heterodimeric BRCA1/BARD1 enhances BRCA1 functions, including the maintenance of genomic stability by participating in DNA repair mechanisms.<sup>3</sup> Further, BRCA1/BARD1 heterodimers have been shown to have ubiquitin ligase activity.<sup>5</sup> BARD1 has also been shown to mediate p53-dependent, BRCA1-independent apoptosis.<sup>6-7</sup> BARD1 binding to the mRNA polyadenylation factor, cleavage stimulation factor-50, is involved in inhibiting mRNA processing and tumor suppression.<sup>8-9</sup>

BARD1 contains two BRCA1 C-terminal (BRCT) domains.<sup>1</sup> BRCT domains are modular units of ~100 amino acids that fold independently and recognize linear phosphoserine or phosphothreonine regions to mediate protein-protein and protein-DNA interactions.<sup>10-11</sup> BRCT domains were initially recognized in the C-terminal region of the breast cancer protein BRCA1, as well as the p53 binding protein and the yeast cell cycle checkpoint protein RAD9.<sup>12</sup> BRCT domains often occur as tandem repeats at the C-terminal end of several proteins that are functionally diverse.<sup>11</sup> Most BRCT domain-containing proteins participate in DNA-damage checkpoint control or DNA-repair pathways, or both.<sup>12-13</sup> Thus, BRCT domain-containing proteins likely participate in the cellular response to DNA damage.

This recombinant protein product contains the first and second BRCT domains of BARD1.

## References

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