

## Recombinant PRC2 EZH2 (A677G) complex

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**Catalog No:** 31391, 31891

**Expressed In:** Baculovirus

**Quantity:** 20, 1000 µg

**Concentration:** 1 µg/µl

**Source:** Human

**Buffer Contents:** Full length recombinant PRC2 EZH2 (A677G) Complex expressed in Sf9 at a concentration of 1 µg/µl in 25 mM HEPES pH 7.5, 120 mM NaCl, 0.2 mg/ml 3X FLAG peptide and 5% glycerol.

**Background:** PRC2 (Polycomb Repressive Complex 2) is one of the two classes Polycomb-group, or PcG proteins (the other being PRC1) that are important epigenetic determinants of stem cell identity. They play an important role in long-term epigenetic silencing of genes during cell fate determination and differentiation. PRC2 functions as a repressor of chromatin. PRC2 is required to target recruitment to specific DNA sequences (termed Polycomb Response Elements or PREs) of genomic regions to be silenced. Once associated with chromatin, the PRC2 subunit EZH2 has histone methyltransferase activity that catalyzes the trimethylation of histone H3 at Lys27. H3K27me3 is well established as a hallmark of regions of repressed chromatin. Trimethylation of Lys27 leads to the recruitment of PRC1 through the binding of H3K27me3 by chromodomain-containing proteins in PRC1. PRC1 is responsible for long-term gene silencing after cellular differentiation.

Recombinant PRC2 EZH2(A677G) Complex is a mutant version of our wild-type PRC2 Complex that contains a Ala-to-Gly mutation at tyrosine 677 of the SET domain of EZH2. Somatic mutations of tyrosine 677 have been identified in non-Hodgkin lymphomas and, similar to somatic mutations of the tyrosine 641 residue, have been shown to alter substrate specificity and catalytic activity of EZH2 for histone H3 lysine 27 (H3K27) methylation states resulting in increased H3K27 trimethylation.

**Protein Details:** Recombinant PRC2 EZH2(A677G) Complex that includes full length EZH2 with an A677G mutation complexed with full length SUZ12, EED and RbAp46/48 (accession numbers NP\_001190176.1, NP\_056170, NP\_003788.2, NP\_002884.1, and NP\_005601.2, respectively) was expressed in Sf9 and contains an N-terminal FLAG tag at the N-terminus of EZH2. The molecular weights of expressed EZH2 (A677G), SUZ12, EED and RbAp46/48 are 87 kDa, 83 kDa, 50.2 kDa, 47.8 kDa and 47.7 kDa, respectively. The recombinant protein is >90% pure by SDS-PAGE.

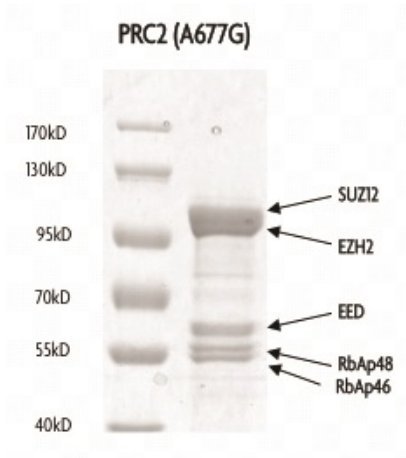
**Application Notes:** PRC2 EZH2(A677G) Complex is suitable for use in the study of enzyme kinetics, inhibitor screening and selectivity profiling.

**Specific Activity:** H3K27me3 and H3K27me2 methyltransferase.

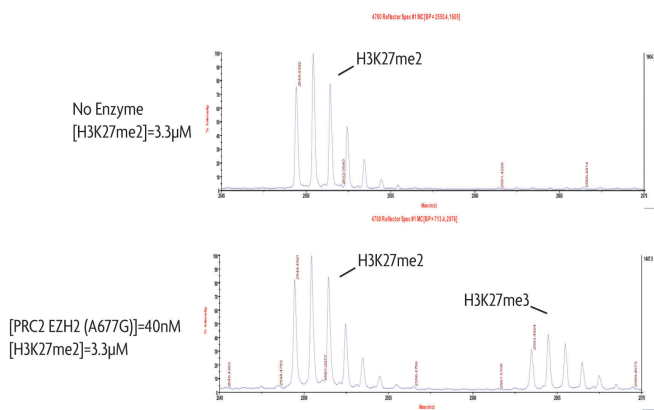
**HMT Assay Conditions:**

50 mM TrisCl, pH 8.6, 0.02% Triton X-100, 2 mM MgCl<sub>2</sub>, 1 mM TCEP, 100 µM SAM, 30 µM H3K27me2 peptide, 40 nM Recombinant PRC2 EZH2(A677G) protein at 2 hours at room temperature. Activity was detected by fluorography.

**Storage and Guarantee:** Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.



**Recombinant PRC2 EZH2(A677G) Complex gel.**  
 PRC2 EZH2(A677G) Complex was run on an SDS-PAGE gel and stained with Coomassie Blue.



**PRC2 EZH2 (A677G) Complex activity assay.**  
 PRC2 EZH2(A677G) Complex activity measured using an HMT assay. MALDI-TOF was used for detection.