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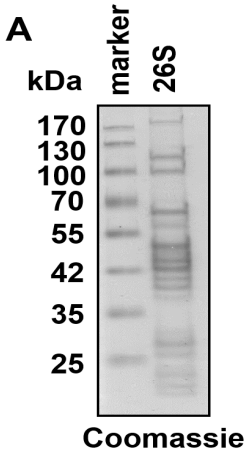
# Human 26S proteasome

## Cat. # A1100, A1101

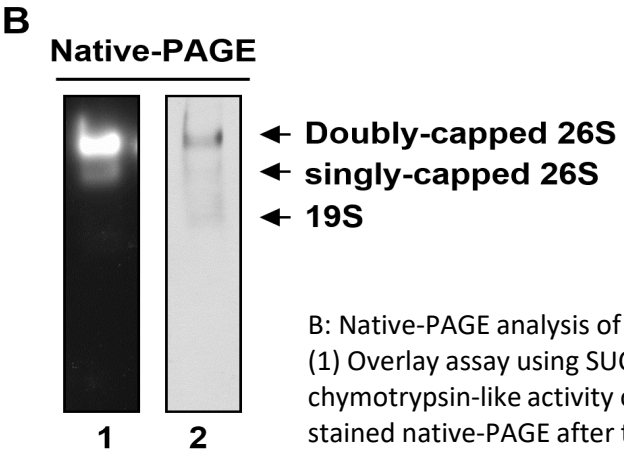
**Also Known as:** 26S proteasome
**NCBI Reference:** N/A
**MW (no tag):** ~3 MegaDa
**Species:** Human
**Source:** HEK 293
**Tag:** No
**Stock Buffer:** 20 mM HEPES, pH 7.2, 100 mM NaCl, 2 mM βME, 2 mM ATP, 5 mM $MgCl_2$, 10% Glycerol

**Concentration:** See tube label
**Quality Assurance:** > 90% by native-PAGE

**Image**




A: Coomassie-stained SDS-PAGE of 5 ug purified human 26S proteasome




B: Native-PAGE analysis of 3 ug purified human 26S proteasome. (1) Overlay assay using SUC-LLVY-AMC to determine the chymotrypsin-like activity of the proteasome. (2) Coomassie-stained native-PAGE after the overlay assay.

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**Description:** The 26S proteasome is an approximately 2.5 mDa large complex composed of the 20S proteasome and the 19S regulatory particle (also called PA700 in mammals). The 20S proteasome has 28 subunits that form a barrel – shaped structure arranged as four heptomeric ring of αββα. Three β subunits have peptidase activities that hydrolyze proteins. Either one or both ends of the 20S proteasome can associate with PA700 to form the 26S proteasome. PA700 contains 19 different proteins that have the ability to bind, deubiquitinate and unfold polyubiquitinated proteins with the consumption of ATP hydrolysis. The 26S proteasome degrades polyubiquitinated proteins, which plays essential roles in regulating various cellular events including protein quality control, gene transcription and signal transduction.

**Storage:** Store at -80°C; avoid multiple freeze-thaw cycles

**Note:** The rapidly isolated human 26S proteasome contains more than 90% doubly-capped 26S proteasome as confirmed by native-PAGE. It still contains a trace amount of TEV protease which is used to relase the affinity purified proteasome from the resin.

**Literature:**

1. Wang X, *et al* . (2007) Biochemistry 46, 3553-65.

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