

HeLa cell nuclear extract (for *in vitro* transcription)

The HeLa cell nuclear extract is specifically recommended for :

- ◆ *in vitro* transcription
- ◆ protein- DNA/RNA and protein-protein interactions
- ◆ source of individual transcription factors

Although this extract also contains most pre-mRNA processing factors, it is, however, not recommended for *in vitro* premRNA processing. Please use our specific HeLa or 293 cell nuclear extract for the purpose of premRNA processing.

1-5 µl is sufficient for a gel mobility shift assay in a 20 µl reaction; 5-10 µl is sufficient for *in vitro* transcription assay and 20-50 µl is sufficient for a protein-protein interaction assay. Concentration is 6-10 mg protein/ml

Description	Cat.#	Qty
HeLa cell nuclear extract	FQ5240	200 µl

HeLa cell nuclear extract (for *in vitro* pre-mRNA splicing)

The HeLa cell nuclear extract is specifically recommended for :

- ◆ *in vitro* splicing
- ◆ protein- DNA/RNA and protein-protein interactions
- ◆ source of individual splicing factors

Although this extract also contains most transcription factors, it is, however, not recommended for *in vitro* transcription assays. Please use our specific HeLa nuclear extract for the purpose of *in vitro* transcription.

1-5 µl is sufficient for a gel mobility shift assay in a 20 µl reaction; 5-10 µl is sufficient for *in vitro* splicing assay and 20-50 µl is sufficient for a protein-protein interaction assay. Concentration is 6-10 mg protein/ml

Description	Cat.#	Qty
HeLa cell nuclear extract	FQ5230	200 µl

293 cell nuclear extract (for *in vitro* pre-mRNA splicing)

The 293 cell nuclear extract is specifically recommended for

- ◆ *in vitro* splicing
- ◆ protein- DNA/RNA and protein-protein interactions
- ◆ source of individual splicing factors

Although this extract also contains most transcription factors, it is not recommended for *in vitro* transcription assays.

1-5 µl is sufficient for a gel mobility shift assay in a 20 µl reaction ; 5-10 µl is sufficient for *in vitro* splicing assay and 20-50 µl is sufficient for a protein-protein interaction assay. Concentration is 6-10 mg protein/ml

Description	Cat.#	Qty
293 cell nuclear extract	FQ5210	200 µl

HeLa cell cytosol extract (S100)

The S100 cytoplasmic extract is specifically recommended for :

- ◆ *in vitro* splicing
- ◆ protein- DNA/RNA and protein-protein interactions
- ◆ source of individual splicing factors and other regulatory proteins

1-5 µl is sufficient for a gel mobility shift assay in a 20 µl reaction; 5-10 µl is sufficient for *in vitro* splicing assay and 20-50 µl is sufficient for a protein-protein interaction assay. Concentration is 6-10 mg protein/ml

Description	Cat.#	Qty
HeLa cell cytosol extract (S100)	FQ5220	200 µl

The HeLa cell nuclear contains all basal transcription factors, including TFIIA, -IIB, -IID, -IIE, -IIF, -IIH and RNA Polymerase II, as well as most gene-specific activators and cofactors, such as Sp1, Oct-1, NF-κB, USF, ATF, PC4, p300 etc. Therefore, it has been used as the source of transcription factors for the cell free transcription system to study specific transcription by RNA Polymerase II as well as RNA Polymerase III and for purifying transcription factors.

The HeLa cell nuclear extract was prepared as described by Manley et al. and Krainer et al. Although this extract contains all basal transcription factors, as well as most gene-specific activators and cofactors, it is prepared specifically for the purpose of pre-mRNA splicing and polyadenylation. Therefore, it has been used as the source of individual polyadenylation factors, splicing factors, and for the cell free system to study the mechanism of pre-mRNA processing.

The 293 cell nuclear extract was prepared essentially as described. Although this extract contains all basal transcription factors, as well as most gene-specific activators and cofactors, it is prepared for the purpose of pre-mRNA splicing, especially for cell-specific polyadenylation, DNA replication and pre-mRNA splicing. 293 cell nuclear extract has been used as the source of individual splicing factors (such as ASF/SF2) and for the cell free system to study the mechanism of pre-mRNA processing.

The development of cell-free systems that accurately process pre-mRNA by splicing, polyadenylation and editing has led to understanding of insights into the mechanisms and the biochemical characteristics of these reactions. Splicing of pre-mRNA requires the presence of specific sequence elements (cis factors) as well as many protein factors. Although the splicing reaction proceeds in the nucleus, many splicing factors have been found existing in cell cytoplasm. Most essential splicing factors including snRNPs, hnRNPs and debranching enzymes are indeed present in HeLa cell cytoplasmic extract and sufficient to support pre-mRNA splicing *in vitro* when complemented with either naturally purified or recombinant essential splicing factor SF2/ASF. In addition, some transcription factors for RNA Polymerase II, such as TFIIF, are also present in HeLa cytosol.