**TABLE 5** Eukaryotic elongation factors<sup>a</sup>

| Complex           | Function   | Subunit  | Size   |
|-------------------|--|--|--|
| DSIF              | Negative factor, renders elongation sensitive to kinase inhibitor DRB  | hSpt5<br>hSpt4   | 160 kDa<br>14 kDa  |
| NELF              | Negative factor, functions with DSIF   | NELF-A<br>NELF-B<br>NELF-C<br>NELF-D<br>NELF-E/RD                              | 66 kDa<br>61 kDa<br>59 kDa<br>58 kDa<br>46 kDa   |
| Factor 2          | Negative factor, causes transcript release   | Factor 2   | $\sim$ 110 kDa   |
| P-TEFb            | Position factor, may function<br>through CTD phosphorylation,<br>Cdk9 can partner with 1 of at least 4 cyclins | Cdk9<br>Cyclin: T1<br>T2a<br>T2b<br>K  | 43 kDa<br>81 kDa<br>74 kDa<br>81 kDa<br>41 kDa   |
| TFIIH             | Positive factor, may funtion<br>through CTD phosphorylation  | XPB/ERCC3<br>XPD/ERCC2<br>p62<br>p52<br>p44<br>Cdk7<br>Cyclin H<br>p34<br>MAT1 | 89 kDa<br>80 kDa<br>62 kDa<br>52 kDa<br>44 kDa<br>40 kDa<br>34 kDa<br>34 kDa<br>32 kDa |
| TFIIF             | Suppresses transient pausing and premature arrest  | RAP74<br>RAP30   | 74 kDa<br>30 kDa   |
| FACT              | Facilitates transcription elongation through nucleosomes   | hSpt16<br>SSRP1  | 140 kDa<br>80 kDa  |
| SII               | Relieves transient pausing and arrest  | TFIIS  | 32 kDa   |
| Elongin<br>(SIII) | Increases rate of elongation   | ElonginA<br>ElonginB<br>ElonginC   | 110 kDa<br>18 kDa<br>15 kDa  |
| Holo-ELL          | Increases rate of elongation   | ELL<br>EAP45<br>EAP30<br>EAP20   | 80 kDa<br>45 kDa<br>30 kDa<br>20 kDa   |
| ELL2              | Increases rate of elongation   | ELL2   | 84 kDa   |
| CSB               | Increases rate of elongation May link transcription and repair   | CSB  | ∼165 kDa   |
| Tat-SF1           | Increases rate of elongation   | Tat-SF1  | 140 kDa  |
| Elongator         | Associated with elongating form of RNA polymerase II. Elp3 has histone acetyltransferase ability               | Elp1<br>Elp2<br>Elp3   | 153 kDa<br>90 kDa<br>64 kDa  |

<sup>&</sup>lt;sup>a</sup>Human elongation factors are described here. The exception is Elongator, which has only been described in yeast thus far. Orthologues of many of these mammalian components exist in other organisms including yeast, *Drosophila*, *C. elegans*, and mouse.