

Recombinant Human DNA Fragmentation Factor, 45kDa, Alpha Polypeptide, His-tagged

Cat. No. DFFA-4316H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	DFFA Human Recombinant fused with 20 amino acid His tag at N-terminus produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 351 amino acids (1- 331 a.a.) and having a molecular mass of 38.7kDa.The DFFA is purified by proprietary chromatographic techniques.
Species	Human
Source	Human
Description	DFF is a heterodimeric protein of 40kDa (DFFB) and 45kDa (DFFA) subunits. DFFA (DNA fragmentation factor subunit alpha) is the substrate for caspase-3 and triggers DNA fragmentation during apoptosis. DFF is activated once DFFA is cleaved by caspase-3. The cleaved fragments of DFFA detach from DFFB (the active component of DFF), which in turn triggers DNA fragmentation as well as chromatin condensation during apoptosis. Apoptosis is accompanied by shrinkage and fragmentation of the cells and nuclei and degradation of the chromosomal DNA into nucleosomal units. A reduced level of DFFA detected in ovarian endometriosis may be a part of an apoptosis-resistant mechanism enhancing the disease progression. DFFA at chromosome 1 shows rare allelic variants in neuroblastoma tumors.
Form	The DFFA solution contains 20mM Tris-HCl buffer (pH 8.0), 10% glycerol and 1mM DTT.

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Purity	Greater than 90.0% as determined by SDS-PAGE.
Physical Appearance	Sterile Filtered colorless solution.
Amino acid sequence	MGSSHHHHH SSGLVPRGSH MEVTGDAGVP ESGEIRTLKP CLLRRNYSRE QHGVAASCLE DLRSKACDIL AIDKSLTPVT LVLAEDGTIV DDDYFLCLP SNTKFVALAS NEKWAYNNSD GGTAWISQES FDVDETDSGA GLKWKNVARQ LKEDLSSIIL LSEEDLQMLV DAPCSDLAQE LRQSCATVQR LQHTLQQVLD QREEVRQSKQ LLQLYLQALE KEGSLLSKQE ESKAAFGEV DAVDTGISRE TSSDVALASH ILTALREKQA PELSLSSQDL ELVTKEDPKA LAVALNWDIK KTETVQEACE WELALRLQQT QSLHSLRSIS ASKASPPGDL QNPKRARQDP T.
Storage	DFFA although stable 4°C for 4 weeks, should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.
Pathways	Apoptosis
GENE INFORMATION	
Gene Name	DFFA DNA fragmentation factor, 45kDa, alpha polypeptide [Homo sapiens]
Official Symbol	DFFA
Synonyms	DFFA; DNA fragmentation factor, 45kDa, alpha polypeptide; DFF1; ICAD; DFF-45; DFF45; ICAD; DFF1; DNA fragmentation factor subunit alpha; DNA fragmentation factor 45 kDa subunit; Inhibitor of CAD; DFF45; H13; OTTHUMP00000001903; OTTHUMP00000001904; DNA fragmentation factor, 45 kD, alpha subunit
Gene ID	1676

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mRNA Refseq	NM_004401
Protein Refseq	NP_004392
MIM	601882
UniProt ID	O00273
Chromosome Location	1p36.3-p36.2
Function	caspase-activated deoxyribonuclease activity; identical protein binding
PDB rendering based on 1iy.	