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**Product Data Sheet**


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Product Name: DFFA Human  
 Cat. No.: GP23316  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	DNA fragmentation factor subunit alpha; DNA fragmentation factor 45 kDa subunit; DFF-45; Inhibitor of CAD; ICAD; DFFA; DFF1; DFF45.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MEVTGDAGVP ESGEIRTLKP CLLRRNYSRE QHGVAASCLE DLRSKACDIL AIDKSLTPVT LVLAEDGTIV DDDDYFLCLP 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.		
Formulation	The DFFA solution contains 20mM Tris-HCl buffer (pH 8.0), 10% glycerol and 1mM DTT.		

**Introduction**

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.

**Stability**

Store at 4°C if entire vial will be used within 2-4 weeks. Store frozen at -20°C for longer

**Caution: Product has not been fully validated for medical applications. For research use only.**

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periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

### Background

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.

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