

## Cytochrome c Monoclonal Antibody (2B5.F8)

Product Specifications	
<b>Catalog Number:</b>	905-631
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG <sub>2a</sub>
<b>Species Reactivity:</b>	Human, cow, horse, and dog
<b>Applications:</b> <i>The optimal dilution for a specific application must be determined by the investigator</i>	<b>IP:</b> Yes <b>ELISA:</b> Yes
<b>Predicted m.w.:</b>	~13 kDa
<b>Concentration:</b>	See product label
<b>Purification:</b>	Protein G Affinity
<b>Format:</b>	Sodium phosphate, 0.1% sodium azide
<b>Storage:</b> <i>Shipping conditions may differ from the recommended storage temperature</i>	Store at -20°C
<b>Immunogen:</b>	Equine cytochrome c
<b>Related Products:</b>	
AAM-175	Cytochrome c Monoclonal Antibody (7H8.2C12)
AAP-170	Cytochrome c Monoclonal Antibody (7H8.2C12)
900-141	Cytochrome c (human) EIA Kit
905-634	Cytochrome c Monoclonal Antibody (6H2.B4)
909-007	Cytochrome c (6H2.B4), FITC Flow Cytometry Kit
919-006	Cytochrome c Monoclonal Antibody (2B5.F8), FITC Conjugate
919-007	Cytochrome c Monoclonal Antibody (6H2.B4), FITC Conjugate

### Background:

Cytochrome c, a component of the mitochondrial respiratory chain, catalyzes electron transfer between complexes III and IV of the respiratory chain, moving within the planar surface of the inner mitochondrial membrane<sup>1</sup>. In addition to its role in oxidative phosphorylation, the release of cytochrome c from the mitochondrial intermembrane space to the cytosol results in apoptosis<sup>2</sup>. Binding of APAF1 to cytochrome c allows APAF1 to form a ternary complex with and activate the initiator procaspase-9 in the presence of dATP. Active caspase-9 then triggers downstream effector caspases, initiating the apoptotic cascade<sup>3</sup>. Studies demonstrate that microinjecting cytochrome c directly into the cytoplasm of various cell types initiates apoptosis on its own, while cell free extracts require APAF-1 as a co-factor, confirming the crucial role of cytochrome c in apoptosis<sup>4</sup>. In contrast, examples of apoptosis in the absence of cytochrome c release suggest that this event may not be necessary in all apoptotic pathways<sup>5</sup>.

#### References:

1. Marzulli, D., *et al.* (1995) Arch Biochem Biophys. **319**, 36-48.
2. Liu, X., *et al.* (1996) Cell **86**, 147-157.
3. Li, P. *et al.* (1997) Cell **91**, 479-489.
4. Zhivotovsky, B., *et al.* (1998) Nature **391**, 449-450.
5. Tang, D., *et al.* (1998) Biochem Biophys Res Comm. **242**, 380-384.