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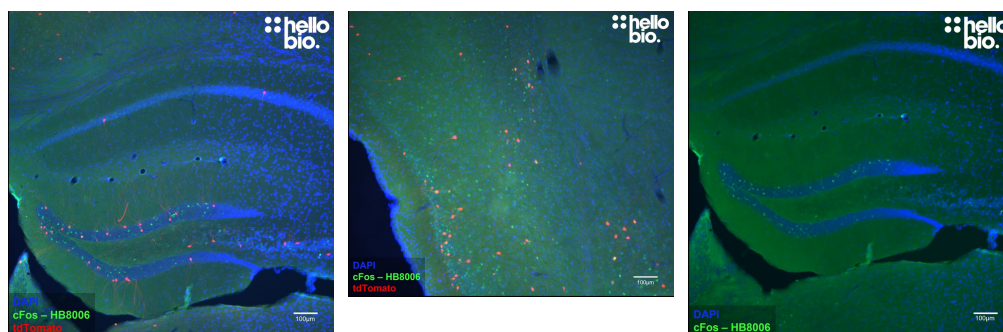
## DATASHEET

### Anti-c-Fos antibody ValidAb™

#### Product overview

<b>Name</b>	Anti-c-Fos antibody ValidAb™
<b>Cat No</b>	HB8006
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Target</b>	c-Fos
<b>Description</b>	Antibody to c-Fos - an immediate early gene used as a marker of neuronal activity. Part of the ValidAb™ range of highly validated, data-rich antibodies.

#### Validation data



#### Product information

<b>Immunogen</b>	Full length recombinant human c-Fos expressed in and purified from E. coli.
<b>Clone number</b>	2H2
<b>Isotype</b>	IgG1
<b>Purification</b>	Protein G affinity chromatography
<b>Concentration</b>	1 mg/ml
<b>Formulation</b>	50% PBS, 50% glycerol with 5mM sodium azide
<b>Predicted species reactivity</b>	Mouse, Rat, Human
<b>Tested species reactivity</b>	Mouse

#### Tested applications

<b>Applications</b>	IHC(IF)
<b>IHC(IF) optimal concentration</b>	1µg/ml (1:1000 dilution) as tested in 4% PFA fixed mouse brain tissue

<b>Product specific protocols</b>	<ul style="list-style-type: none"><li>Due to the low stability of the c-Fos protein (around a 1hr half life) we recommend perfusion fixation for animal tissues to ensure rapid preservation of protein integrity. A protocol for this is available in <a href="#">Gage et al., 2012</a>.</li></ul>
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<b>Applications</b>	IHC(IF) <ul style="list-style-type: none"> <li>This product has only been validated in IHC(IF) using sodium citrate antigen retrieval (pH6.0, 80°C for 30 minutes) and therefore it is highly recommended that this method is used in all IHC(IF) experiments using HB8006.</li> </ul>
<b>Positive control</b>	c-Fos is expressed at high levels in many cell lines (e.g. HEK293 or HeLa) when serum starved cells are stimulated with serum.
<b>Negative control</b>	Serum starved cell lines (e.g. HEK293 or HeLa) express very low levels of c-Fos.
<b>Open data link</b>	Please follow <a href="#">this link</a> to the OSF

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## Target information

<b>Other names</b>	<ul style="list-style-type: none"> <li>Fos</li> <li>Cellular oncogene fos</li> <li>Fos proto-oncogene, AP-1 transcription factor subunit</li> <li>G0/G1 switch regulatory protein 7</li> <li>Proto-oncogene c-Fos</li> <li>Transcription factor AP-1 subunit c-Fos</li> </ul>
<b>UniProt ID</b>	P01100
<b>Gene name</b>	FOS
<b>NCBI full gene name</b>	Fos proto-oncogene, AP-1 transcription factor subunit
<b>Entrez gene ID</b>	2353
<b>Amino acids</b>	380aa (40.7kDa)
<b>Isoforms</b>	c-Fos has three key isoforms: <ul style="list-style-type: none"> <li>Isoform 1: canonical 380aa, 40.7kDa</li> <li>Isoform 2: missing aa1-114, 266aa, 28.9kDa</li> <li>Isoform 3: missing aa132-167, 344aa, 36.3kDa</li> </ul>
<b>Expression</b>	Expressed widely across multiple tissues at low levels. Expression is inducible by a range of factors including cellular activity, growth factors, cytokines and tumour promoters. c-Fos is expressed in neurones where its expression is induced by activity.
<b>Subcellular expression</b>	c-Fos expression is localised to the nucleus
<b>Target function</b>	Associates with Jun proteins to form activator protein 1 (AP-1) complexes which are able to activate transcription of a range of genes. This process mediates the conversion of extracellular signals into changes in gene expression. cFos is also a proto-oncogene with aberrant activation being linked to oncogenesis.
<b>Processing</b>	None
<b>Post translational modifications</b>	Subject to phosphorylation on multiple residues and also possesses multiple SUMO2 binding sites.
<b>Homology (compared to human)</b>	Rat and mouse show a 94.2% and 93.7% identity to human c-Fos in a BLAST search
<b>Similar proteins</b>	<p>The following proteins were identified as being similar to c-Fos in a BLAST search:</p> <ul style="list-style-type: none"> <li>FosB - 73.9% identity</li> <li>FRA-1 - 52.7% identity</li> <li>FRA-2 - 42.9% identity</li> </ul>

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## Storage & Handling

**Storage instructions** -20 °C

**Important** This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

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## References

### Expression of c-fos-like protein as a marker for neuronal activity following noxious stimulation in the rat.

Bullitt E (1990) The Journal of comparative neurology 296

**PubMedID** [2113539](#)

### Activation of c-fos in the brain.

Herrera DG et al (1996) Progress in neurobiology 50

**PubMedID** [8971979](#)

### c-FOS expression after hippocampal deep brain stimulation in normal rats.

da Silva JC et al (2014) Neuromodulation : journal of the International Neuromodulation Society 17

**PubMedID** [24118230](#)

### Decreased food anticipatory activity of obese mice relates to hypothalamic c-Fos expression.

Luna-Illades C et al (2017) Physiology & behavior 179

**PubMedID** [28527681](#)

### Adult social isolation leads to anxiety and spatial memory impairment: Brain activity pattern of COx and c-Fos.

Zorzo C et al (2019) Behavioural brain research 365

**PubMedID** [30851318](#)

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