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DATASHEET

Anti-c-Fos antibody ValidAb™

Product overview

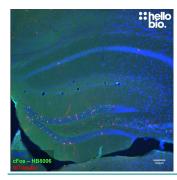
Name Anti-c-Fos antibody ValidAbTM

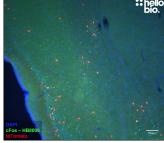
Cat No HB8006
Host Mouse
Clonality Monoclonal
Target c-Fos

Description 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

Immunogen Full length recombinant human c-Fos expressed in and purified from E. coli.

Clone number 2H2 Isotype IgG1

Purification Protein G affinity chromatography

Concentration 1 mg/ml

Formulation 50% PBS, 50% glycerol with 5mM sodium azide

Predicted species reactivity Mouse, Rat, Human

Tested species reactivity Mouse

Tested applications

Applications

IHC(IF)

IHC(IF) optimal concentration Product specific protocols

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

- 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 Gage et al., 2012.
- 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.

Positive control c-Fos is expressed at high levels in many cell lines (e.g. HEK293 or HeLa) when serum starved cells

are stimulated with serum.

Negative control Serum starved cell lines (e.g. HEK293 or HeLa) express very low levels of c-Fos.

Open data link Please follow this link to the OSF

Target information

Other names Fos

· Cellular oncogene fos

• Fos proto-oncogene, AP-1 transcription factor subunit

• G0/G1 switch regulatory protein 7

• Proto-oncogene c-Fos

• Transcription factor AP-1 subunit c-Fos

UniProt ID P01100 **FOS** Gene name

NCBI full gene name Fos proto-oncogene, AP-1 transcription factor subunit

Entrez gene ID 2353

Amino acids 380aa (40.7kDa)

Isoforms c-Fos has three key isoforms:

> • Isoform 1: canonical 380aa, 40.7kDa • Isoform 2: missing aa1-114, 266aa, 28.9kDa Isoform 3: missing aa132-167, 344aa, 36.3kDa

Expression 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.

Subcellular expression **Target function**

c-Fos expression is localised to the nucleus

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.

Processing

Post translational modifications

Subject to phosphorylation on multiple residues and also possesses multiple SUMO2 binding sites.

Homology (compared to

human)

Similar proteins

Rat and mouse show a 94.2% and 93.7% identity to human c-Fos in a BLAST search

The following proteins were identified as being similar to c-Fos in a BLAST search:

• FosB - 73.9% identity

• FRA-1 - 52.7% identity

• FRA-2 - 42.9% identity

Storage & Handling

Storage instructions **Shipping Conditions**

-20°C On ice

Important

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

for human or veterinary use

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