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Apoptosis Markers



Bcl2

Bcl2 is a key apoptosis regulator and suppresses apoptosis in a variety of cell systems including neural cells and factor-dependent lymphohematopoietic cells. It is responsible for the control of mitochondrial membrane permeability and has been shown to function in a feedback loop system with a number of caspases. It inhibits caspase activity in 2 ways; by preventing the release of Cytochrome C from the mitochondria and/or by binding to the apoptosis-activating factor (APAF1). The balance of pro and anti-apoptotic Bcl-2 family proteins (e.g., Bcl-2 and Bcl-w versus Bad, Bim and Bax) has been known to have a role in neuronal cell death and, importantly, expression levels of these proteins are reportedly altered in the vulnerable neurons in AD.

ANTIBODIES

Catalog No.	Name	Host	Clone	Applications
10R-8483	Bcl2 antibody mAb	Mouse	11C5	ELISA, WB, IP
10R-8482	Bcl2 antibody mAb	Mouse	2B11	ELISA, WB, IP
10R-7823	Bcl2 antibody mAb	Mouse	BL-2	WB, IHC-P, IHC-F, ICC
10R-8029	Bcl2 antibody mAb	Mouse	Bcl-2/100	IHC, IP, WB
10R-7621	Bcl2 antibody mAb	Mouse	8C8	WB
10R-6619	Bcl2 antibody mAb	Mouse	10C4	FC, Functional Assay
10R-2218	Bcl2 antibody mAb	Mouse	8E12	ELISA, IF, IHC
10R-1187	Bcl2 antibody mAb	Mouse	AT1B5	ELISA, IF, WB
70R-35549	Bcl2 antibody pAb	Rabbit	-	WB, IHC, ELISA
70R-15975	Bcl2 antibody pAb	Rabbit	-	ELISA, IHC, WB
70R-13666	Bcl2 antibody pAb	Rabbit	-	WB, ELISA, Neutralization, IP
70R-11571	Bcl2 antibody pAb	Rabbit	-	IHC, IP, WB
20R-2240	Bcl2 antibody pAb	Rabbit	-	IF, IHC, WB
70R-7602	Bcl2 antibody pAb	Rabbit	-	ELISA, IHC, WB
70R-36053	Bcl2 antibody pAb (Thr56)	Rabbit	-	ELISA, IHC, IF, WB
70R-33372	Bcl2 antibody pAb (Thr69)	Rabbit	-	IHC, IF, ELISA

PROTEINS

Catalog No.	Name	Species	Type	Purity
80R-1136	Bcl2 protein (His tag)	Human	Recombinant	> 90% pure

RESEARCH KITS

Catalog No.	Name
55R-IB49641	Bcl2 ELISA kit
55R-IB09621	Bcl2 ELISA kit

Caspase 3

Caspase 3 plays a major role in the activation cascade of caspases responsible for apoptosis execution. At the onset of apoptosis, Caspase 3 proteolytically cleaves poly (ADP-ribose) polymerase (PARP) at a '216-Asp-|-Gly-217' bond. It is also responsible for cleavage and subsequent activation of caspase 6, 7 and 9. In Huntington's disease, it is involved in the cleavage of huntingtin. Caspase 3 activity has also been identified to be critical for oligomeric A β -mediated facilitation of LTD in Alzheimer's disease.

ANTIBODIES

Catalog No.	Name	Host	Clone	Applications
10R-7996	Caspase 3 mAb	Mouse	C33	WB
70R-33463	Caspase 3 pAb	Rabbit	-	WB, IHC, ELISA
70R-31077	Caspase 3 pAb	Rabbit	-	WB, IHC, ELISA
70R-31076	Caspase 3 pAb	Rabbit	-	WB, IHC, ELISA
70R-31075	Caspase 3 pAb	Rabbit	-	IHC, ELISA
70R-13844	Caspase 3 pAb	Rabbit	-	IHC-P
70R-11558	Caspase 3 pAb	Rabbit	-	IHC, WB
20R-2495	Caspase 3 pAb	Rabbit	-	WB
20R-CR013	Caspase 3 pAb	Rabbit	-	IHC
70R-33462	Caspase 3 pAb (Ser150)	Rabbit	-	WB, IHC, ELISA

PROTEINS

Catalog No.	Name	Species	Type	Purity
30R-2414	Caspase 3 protein	Human	Recombinant	> 98% pure
30R-2329	Caspase 3 protein	Human	Recombinant	> 98% pure
30R-2327	Caspase 3 protein	Human	Recombinant	> 98% pure
30R-2319	Caspase 3 protein	Human	Recombinant	> 98% pure

RESEARCH KITS

Catalog No.	Name
55R-1270	Caspase 3 Colorimetric Assay Kit
55R-1269	Caspase 3 Fluorometric Assay Kit

Caspase 8

Caspase 8 is the most upstream protease of the activation cascade of caspases responsible for the TNFRSF6 /FAS mediated and TNFRSF1A induced cell death. It also cleaves and activates caspase 3, 4, 6, 7, 9 and 10. Like all caspases, Caspase-8 is synthesized as an inactive single polypeptide chain zymogen procaspase and is activated by proteolytic cleavage, through either autoactivation after recruitment into a multimeric complex or trans-cleavage by other caspases. Neurons committed to apoptosis may do so by either activation of a receptor-mediated pathway employing Caspase-8 or through an alternative mitochondrial pathway involving oxidative stress. Activated Caspase-8 is known to propagate the apoptotic signal either by directly cleaving and activating downstream caspases or by cleaving the BH3 Bcl2-interacting protein, which leads to the release of Cytochrome C from mitochondria, triggering activation of Caspase-9 in a complex with dATP and Apaf-1.

ANTIBODIES

Catalog No.	Name	Host	Clone	Applications
10R-7623	Caspase 8 mAb	Mouse	TGF8	ELISA
10R-6739	Caspase 8 mAb	Mouse	C502S	IP, WB
70R-14063	Caspase 8 pAb	Rabbit	-	WB, IHC-P
70R-12555	Caspase 8 pAb	Rabbit	-	IF, ICC, IHC-P, WB
70R-11657	Caspase 8 pAb	Rabbit	-	IHC, WB
20R-2496	Caspase 8 pAb	Rabbit	-	WB
70R-30656	Caspase 8 pAb (Ser347)	Rabbit	-	WB, IHC, ELISA
70R-32592	Caspase 8 pAb (Tyr380)	Rabbit	-	WB, ELISA

PROTEINS

Catalog No.	Name	Species	Type	Purity
30R-2328	Caspase 8 protein	Mouse	Recombinant	> 98% pure
30R-2324	Caspase 8 protein	Human	Recombinant	> 98% pure

RESEARCH KITS

Catalog No.	Name
55R-1275	Caspase 8 Colorimetric Assay Kit
55R-1274	Caspase 8 Fluorometric Assay Kit

Caspase 9

Caspase 9 is an initiator caspase. Induction of stress signaling pathways JNK/SAPK cause release of Cytochrome C from mitochondria and activation of APAF1, which in turn cleaves the pro-enzyme of Caspase 9 into the active form. Once initiated Caspase-9 goes on to cleave procaspase-3 & procaspase-7, which cleave several cellular targets, including poly ADP ribose polymerase. Neurons committed to apoptosis may do so through a mitochondrial pathway employing Caspase-9 or through an alternative, receptor-mediated pathway involving Caspase-8.

ANTIBODIES

Catalog No.	Name	Host	Clone	Applications
70R-33461	Caspase 9 pAb	Rabbit	-	WB, IF, ELISA
70R-33459	Caspase 9 pAb	Rabbit	-	WB, ELISA
70R-31082	Caspase 9 pAb	Rabbit	-	WB, IHC, ELIS
70R-30659	Caspase 9 pAb	Rabbit	-	WB, IHC, IF, ELISA
70R-11559	Caspase 9 pAb	Rabbit	-	WB
20R-2827	Caspase 9 pAb	Rabbit	-	IP, WB
20R-2497	Caspase 9 pAb	Rabbit	-	WB
20R-1473	Caspase 9 pAb	Rabbit	-	ICC, IHC, WB
20R-1472	Caspase 9 pAb	Rabbit	-	ICC, IP, WB
70R-33458	Caspase 9 pAb (Ser144)	Rabbit	-	WB, IHC, ELISA
70R-33456	Caspase 9 pAb (Tyr153)	Rabbit	-	WB, IF, ELISA

PROTEINS

Catalog No.	Name	Species	Type	Purity
30R-2407	Caspase 9 protein	Human	Recombinant	> 98% pure
30R-2406	Caspase 9 protein	Human	Recombinant	> 98% pure

RESEARCH KITS

Catalog No.	Name
55R-1281	Caspase 9 Colorimetric Assay Kit
55R-1280	Caspase 9 Fluorometric Assay Kit

GSK3

GSK3 or Glycogen synthase kinase 3 is a serine/threonine protein kinase that mediates the addition of phosphate molecules onto serine and threonine amino acid residues. In mammals GSK3 is encoded by two known genes, GSK3 alpha and GSK3 beta. Phosphorylation of a protein by GSK3 usually inhibits the activity of its downstream target. GSK3 is active in a number of central intracellular signaling pathways, including cellular proliferation, migration, inflammation and immune responses, glucose regulation, and apoptosis. GSK3 activity has been associated with both amyloid deposits and neurofibrillary tangles in Alzheimer's disease. GSK3 is thought to directly promote A β production and to be tied to the process of the hyperphosphorylation of tau proteins, which leads to the tangles.

ANTIBODIES

Catalog No.	Name	Host	Clone	Applications
10R-10786	GSK3 alpha mAb	Mouse	M81236	WB, IHC, ELISA
10R-10987	GSK3 alpha mAb	Mouse	M72768	WB, ELISA
10R-2104	GSK3 alpha mAb	Mouse	6G12C2	ELISA, WB
10R-2025	GSK3 alpha mAb	Mouse	6G2F1, 6G2F2	ELISA, IHC, WB
10R-1930	GSK3 alpha mAb	Mouse	9D5G1	ELISA, IF, WB
10R-8595	GSK3 beta mAb	Mouse	AF12E8	ELISA, WB
10R-1017	GSK3 beta mAb	Mouse	1F7	ELISA, WB
20R-1620	GSK3 pAb	Rabbit	-	IHC, WB
20R-1610	GSK3 pAb	Rabbit	-	WB
20R-1608	GSK3 pAb	Rabbit	-	IHC, WB
70R-34164	GSK3 alpha pAb	Rabbit	-	WB, IHC, ELISA
20R-2192	GSK3 alpha pAb	Rabbit	-	IF, IHC, WB
20R-1883	GSK3 alpha pAb	Rabbit	-	IF, IHC, WB
70R-34163	GSK3 alpha pAb (Ser21)	Rabbit	-	WB, IHC, ELISA
70R-30634	GSK3 beta pAb	Rabbit	-	WB, IHC, ELISA
20R-2452	GSK3 beta pAb	Rabbit	-	WB
20R-1878	GSK3 beta pAb	Rabbit	-	IF, IHC, WB
70R-30633	GSK3 beta pAb (Ser9)	Rabbit	-	WB, ELISA

PROTEINS

Catalog No.	Name	Species	Type	Purity
80R-2554	GSK3 alpha protein (GST Fusion)	Human	Recombinant	> 95% pure
30R-2812	GSK3 beta protein	Human	Recombinant	> 95% pure
80R-3636	GSK3 beta protein (His tag)	Human	Recombinant	> 85% pure

RESEARCH KITS

Catalog No.	Name
55R-IB09611	GSK3 beta ELISA kit

Cu/Zn SOD & SOD1

SOD or Superoxide dismutase is an enzyme that catalyzes the dismutation of superoxide (O_2^-) into oxygen and hydrogen peroxide and is an important antioxidant defense in nearly all cells exposed to oxygen, protecting cells from metabolic waste that can do damage if not rendered harmless. There are three major families of superoxide dismutase, depending on the metal cofactor: Cu/Zn (which binds both copper and zinc), Fe and Mn types (which bind either iron or manganese), and the Ni type, which binds nickel. Mutations in Cu/Zn SOD, or its more commonly used name SOD1, can cause familial amyotrophic lateral sclerosis (ALS) and to date, over 100 different mutations in SOD1 have been linked to familial ALS.

ANTIBODIES

Catalog No.	Name	Host	Clone	Applications
10R-5886	SOD1 antibody mAb	Mouse	8B10	FC, IHC, WB
10R-2163	SOD1 antibody mAb	Mouse	6F5	ELISA, FC, IF, WB
20R-SG004	Cu/Zn SOD pAb	Goat	-	ELISA, WB
20R-CR031	Cu/Zn SOD pAb	Rabbit	-	WB
70R-CR010	Cu/Zn SOD pAb	Rabbit	-	IHC, IP, WB
70R-13887	SOD antibody pAb	Rabbit	-	WB, IHC-P, IHC-F, ICC
20C-CR6071RP	SOD pAb	Rabbit	-	ELISA, WB
20-SR56	SOD pAb	Rabbit	-	ELISA, IHC, WB
20C-CR6071SP	SOD pAb	Sheep	-	WB
70R-20452	SOD1 pAb	Rabbit	-	ELISA, IHC, WB
20R-2883	SOD1 pAb	Rabbit	-	WB, IP, IHC-P
70R-11839	SOD1 pAb	Rabbit	-	IHC, IP, WB
70R-1548	SOD1 pAb	Rabbit	-	WB, IHC
60R-1250	SOD1 pAb (biotin)	Rabbit	-	ELISA, IHC, WB
60R-2203	SOD1 pAb (FITC)	Rabbit	-	ELISA, IHC, WB
60R-1249	SOD1 pAb (HRP)	Rabbit	-	ELISA, IHC, WB

PROTEINS

Catalog No.	Name	Species	Type	Purity
30R-2994	SOD1 protein	Human	Recombinant	> 95% pure
30R-1185	SOD1 protein	Human	Recombinant	> 95% pure

RESEARCH KITS

Catalog No.	Name
55R-IB49622	Human Cu/Zn SOD ELISA kit
55R-1374	SOD Assay Kit
55R-1867	SOD1 ELISA kit



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