

Table 13: Nef

MAB ID	HXB2 Location	Author's Location	Sequence	Neutralizing	Immunogen	Species(Isotype)
835 13/042	Nef(11–20) References: [Schneider (1991)] • 13/042: Epitope mapped by overlapping decapeptides – core: TVRERM –Schneider91	Nef(11–24 BH10)	VGWPTVRERM		rec Nef fragment	murine()
836 13/035	Nef(15–24) References: [Schneider (1991)] • 13/035: Epitope mapped by overlapping decapeptides – core: TVRERM –Schneider91	Nef(11–24 BH10)	TVRERMRAE		rec Nef fragment	murine()
837 26/76	Nef(30–43) References: [Schneider (1991)] • 26/76: Epitope mapped by overlapping decapeptides – core: SRDLEK –Schneider91	Nef(30–43 BH10)	VGAASRDLEKHGAI		rec Nef fragment	murine()
838 25/03	Nef(30–43) References: [Schneider (1991)] • 25/03: Epitope mapped by overlapping decapeptides – core: ASRDLEK –Schneider91	Nef(30–43 BH10)	VGAASRDLEKHGAI		rec Nef fragment	murine()
839 3F2	Nef(31–40) References: [Ovod (1992), Saito (1994), Ranki (1995)] • 3F2: Reacted with Nef from different HIV-1 strains (BRU, IIIB, RF, MN) –Ovod92 • 3F2: Faintly cross-reactive with astrocytes of uninfected control samples –Ranki95 • 3F2: UK Medical Research Council AIDS reagent: EVA3067.1	Nef()	GAASRDLEKH		rec Nef protein (BRU isolate)	murine(IgG ₁)
840 3D12	Nef(31–50) References: [Ovod (1992), Saito (1994), Ranki (1995)] • 3D12: There is an anti-RT MAb that also has this name (see –Chiba97) • 3D12: Reacted with Nef from different HIV-1 strains (BRU, IIIB, RF, MN) –Ovod92 • 3D12: Over-expression of Nef in astrocytes from postmortem pediatric CNS tissues –Saito94 • 3D12: One of four antibodies used in combination to show HIV Nef protein expressed in astrocytes from 7/14 brain samples from HIV+ individuals – Nef expression associated with dementia –Ranki95 • 3D12: UK Medical Research Council AIDS reagent: EVA3067.2	Nef()	GAASRDLEKHGAISSN-TAA		rec Nef protein (BRU isolate)	murine(IgG ₁)
841 3G12	Nef(51–71) References: [Ovod (1992)] • 3G12: Reacted with Nef from different HIV-1 strains (BRU, IIIB, RF, MN) –Ovod92	Nef()	TNAACAWLEAQEEEEVG-FPVT		rec Nef protein (BRU isolate)	murine(IgG _{2a})

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842 26/028	Nef(60–73) References: [Schneider (1991)] • 26/028: Epitope mapped by overlapping decapeptides – core: EEVGFPV –Schneider91	Nef(60–73 BH10)	AQEEEEVGFPVTPQ		rec Nef fragment	murine()
843 13/058	Nef(60–73) References: [Schneider (1991)] • 13/058: Epitope mapped by overlapping decapeptides – core: EEVGFP –Schneider91	Nef(60–73 BH10)	AQEEEEVGFPVTPQ		rec Nef fragment	murine()
844 2E3	Nef(61–80) References: [Ovod (1992), Nilsen (1996)] • 2E3: There are two MABs with the name 2E3 – the other one binds to integrase –Nilsen96 • 2E3: Two isomorphous forms of Nef were identified, 2E3 reacted with the p24 but not p27 form, and was strain specific (MN and BRU reactive, not IIIB or RF) –Ovod92	Nef()	QEEEEVGFPVTPQVPLR- PMT		rec Nef protein (BRU isolate)	murine(IgG ₁)
845 F14.11	Nef(83–88) References: [De Santis (1991), Chang (1998)] • F14.11: The MAB was made to a six aa region of Nef that is similar to a region found in thymosin α 1 protein – the MAB binds to the natural Nef protein –DeSantis91 • F14.11: Used as a control in a study of Nef-specific single chain Abs constructed from AG11 and EH1 –Chang98	Nef(83–88)	AAVDLS		Nef peptide	murine(IgG _{2a} κ)
846 31/03	Nef(83–103) References: [Schneider (1991)] • 31/03: Epitope mapped by overlapping decapeptides – mapping suggests complex epitope in this region –Schneider91	Nef(82–103 BH10)	AAVDLSHFLKEKGGLEG- LIHS		rec Nef fragment	murine()
847 F1	Nef(148–157) References: [Fujii (1993), Otake (1994), Fujii (1996c), Fujii (1996b)] • F1: The C-term end of Nef is accessible to Abs at the cell surface – stained IIIB/M10, but not MN/M10, cells –Otake94,Fujii93 • F1: Insect cells expressing myristylated Nef proteins on their cell surface can induce cytolysis of unstimulated CD4+ cells – this response is not due to MHC restricted CTL activity – the cell surface of Nef expressing insect cells carry Nef that can be recognized by MABs E7 and E9 but not F1 –Fujii96 • F1: A carboxy-terminal domain of Nef on the cell surface induces cytolysis of CD4+ T cells –Fujii96b	Nef(148–157 IIIB)	VEPDKVEEAN		?	murine(IgM)

MAb ID	HXB2 Location	Author's Location	Sequence	Neutralizing	Immunogen	Species(Isotype)
848 2F2	Nef(151–170)	Nef()	DKVEEANKGENTSLLHP-VSL		rec Nef protein	murine(IgG ₁)
<p>References: [Ovod (1992), Saito (1994), Ranki (1995)]</p> <ul style="list-style-type: none"> • 2F2: Strain specific (MN and BRU reactive, not IIIB or RF) –Ovod92 • 2F2: Over-expression of Nef in astrocytes from postmortem pediatric CNS tissue –Saito94 • 2F2: One of four antibodies used in combination to show HIV Nef protein expressed in astrocytes from 7/14 brain samples from HIV+ individuals – Nef expression associated with dementia –Ranki95 • 2F2: UK Medical Research Council AIDS reagent: EVA3067.3 						
849 E9	Nef(158–181)	Nef(158–206 IIIB)	KGENTSLLHPVSLHGMD-DPEREVL		?	murine(IgM)
<p>References: [Fujii (1993), Otake (1994), Fujii (1996c), Fujii (1996b)]</p> <ul style="list-style-type: none"> • E9: The C-term end of Nef is accessible to Abs at the cell surface – stained IIIB/M10, but not MN/M10, cells –Otake94,Fujii93 • E9: A carboxy-terminal domain of Nef on the cell surface induces cytolysis of CD4+ T cells –Fujii96b • E9: Insect cells expressing myristylated Nef proteins on their cell surface can induce cytolysis of unstimulated CD4+ cells – this response is not due to MHC restricted CTL activity – the cell surface of Nef expressing insect cells carry Nef that can be recognized by MAbs E7 and E9 but not F1 –Fujii96 						
850 3E6	Nef(161–180)	Nef()	NTSLLHPVSLHGMDPE-REV		Recombinant Nef protein (BRU isolate)	murine(IgG ₁)
<p>References: [Ovod (1992), Saito (1994), Ranki (1995)]</p> <ul style="list-style-type: none"> • 3E6: Reacted with Nef from different HIV-1 strains (BRU, IIIB, RF, MN) –Ovod92 • 3E6: Faintly cross-reactive with astrocytes of uninfected control samples –Ranki95 • 3E6: UK Medical Research Council AIDS reagent: EVA3067.4 						
851 3A2	Nef(171–190)	Nef()	HGMDDPEREVLEWRFD-RLA		Recombinant Nef protein (BRU isolate)	murine(IgG ₁)
<p>References: [Ovod (1992), Saito (1994), Ranki (1995)]</p> <ul style="list-style-type: none"> • 3A2: Reacted with Nef from different HIV-1 strains (BRU, IIIB, RF, MN) –Ovod92 • 3A2: Over-expression of Nef in astrocytes from postmortem pediatric CNS tissue –Saito94 • 3A2: One of four antibodies used in combination to show HIV Nef protein expressed in astrocytes from 7/14 brain samples from HIV+ individuals – Nef expression associated with dementia –Ranki95 • 3A2: UK Medical Research Council AIDS reagent: EVA3067.5 						

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MAb ID	HXB2 Location	Author's Location	Sequence	Neutralizing	Immunogen	Species(Isotype)
852 2A3	Nef(171–190)	Nef()	HGMDDPEREVLEWRFD- RLA		Recombinant Nef protein (BRU isolate)	murine(IgG ₁)
<p>References: [Ovod (1992)]</p> <ul style="list-style-type: none"> • 2A3: Reacted with Nef from different HIV-1 strains (BRU, IIIB, MN, but not RF) –Ovod92 						
853 2E4	Nef(171–190)	Nef()	HGMDDPEREVLEWRFD- RLA		Recombinant Nef protein (BRU isolate)	murine(IgG ₁)
<p>References: [Ovod (1992)]</p> <ul style="list-style-type: none"> • 2EA: Reacted with Nef from different HIV-1 strains (BRU, IIIB, MN but not RF) –Ovod92 						
854 2H12	Nef(171–190)	Nef()	HGMDDPEREVLEWRFD- RLA		Recombinant Nef protein (BRU isolate)	murine(IgG ₁)
<p>References: [Ovod (1992), Saito (1994), Ranki (1995)]</p> <ul style="list-style-type: none"> • 2H12: Reacted with Nef from different HIV-1 strains (BRU, IIIB, RF, MN) –Ovod92 • 2H12: Over-expression of Nef in astrocytes from postmortem pediatric CNS tissue –Saito94 • 2H12: One of four antibodies used in combination to show HIV Nef protein expressed in astrocytes from 7/14 brain samples from HIV+ individuals – Nef expression associated with dementia –Ranki95 						
855 E7	Nef(192–206)	Nef(192–206 IIIB)	HHVARELHPEYFKNC		?	murine(IgM)
<p>References: [Fujii (1993), Otake (1994), Fujii (1996c), Fujii (1996a), Fujii (1996b), Fujii (1996d)]</p> <ul style="list-style-type: none"> • E7: The C-term end of Nef is accessible to Abs at the cell surface – stained IIIB/M10, but not MN/M10, cells –Otake94,Fujii93 • E7: Insect cells expressing myristylated Nef proteins on their cell surface can induce cytolysis of unstimulated CD4+ cells – this response is not due to MHC restricted CTL activity – the cell surface of Nef expressing insect cells carry Nef that can be recognized by MAbs E7 and E9 but not F1 –Fujii96 • E7: Nef forms a homomeric oligomerizing structure, and using E7 and membrane immunofluorescence or immunoelectron microscopy, was shown to clusters on the surface of HIV-1 infected CD4+ cells –Fujii96a • E7: A carboxy-terminal domain of Nef on the cell surface induces cytolysis of CD4+ T cells –Fujii96b • E7: Soluble Nef inhibits proliferation of CD4+ cells, and Nef cross-linking by MAbs may induce anti-CD4 cytotoxic activity – sera from HIV+ individuals contain soluble Nef, thus this may be important for immune dysfunction and disease progression –Fujii96c 						

MAb ID	HXB2 Location	Author's Location	Sequence	Neutralizing	Immunogen	Species(Isotype)
856 AG11	Nef(194–206)	Nef()	VARELHPEYFKNC		rec NEF	murine(IgG ₁ κ)
<p>Donor: Frank Jirik, Centre for Molecular Med and Therapeutics, U. B. C., Vancouver, B. C. Canada</p> <p>References: [Chang (1998)]</p> <ul style="list-style-type: none"> AG11: The light and heavy chains of three MABs (AG11, AE6, EH1) specific to C-terminus of NEF were cloned and variable regions sequenced – the complementarity determining regions (CDR) of AG11 and AE6 were highly related (95.1% at the DNA level) and bound LAI Nef, but not SF2 Nef – EH1 bound to SF2 and LAI and cross-competed AG11 and AE6 but had a distinctive CDR (57.9% similar to AG11) – single chain Abs were constructed from AG11 and EH1 and subcloned into a eukaryotic expression vector with a green fluorescent protein marker to allow intracellular expression – the single chain Abs bind Nef intracellularly and may be useful to better understand the role of Nef and as a gene therapy model –Chang98 						
857 AE6	Nef(194–206)	Nef()	VARELHPEYFKNC		rec NEF	murine(IgG ₁ κ)
<p>Donor: Frank Jirik, Centre for Molecular Med and Therapeutics, U. B. C., Vancouver, B. C. Canada</p> <p>References: [Chang (1998)]</p> <ul style="list-style-type: none"> AE6: The light and heavy chains of three MABs (AG11, AE6, EH1) specific to C-terminus of NEF were cloned and variable regions sequenced – the complementarity determining regions (CDR) of AG11 and AE6 were highly related (95.1% at the DNA level) and bound LAI Nef, but not SF2 Nef – EH1 bound to SF2 and LAI and cross-competed AG11 and AE6 but had a distinctive CDR (57.9% similar to AG11) – single chain Abs were constructed from AG11 and EH1 –Chang98 						
858 EH1	Nef(194–206)	Nef()	MARELHPEYYKDC		rec Nef	murine(IgG ₁ κ)
<p>Donor: Frank Jirik, Centre for Molecular Med and Therapeutics, U.B.C., Vancouver, B.C. Canada</p> <p>References: [Chang (1998)]</p> <ul style="list-style-type: none"> EH1: The light and heavy chains of three MABs (AG11, AE6, EH1) specific to C-terminus of NEF were cloned and variable regions sequenced – the complementarity determining regions (CDR) of AG11 and AE6 were highly related (95.1% at the DNA level) and bound LAI Nef, but not SF2 Nef – EH1 bound to SF2 and LAI and cross-competed AG11 and AE6 but had a distinctive CDR (57.9% similar to AG11) – single chain Abs were constructed from AG11 and EH1 and subcloned into a eukaryotic expression vector with a green fluorescent protein marker to allow intracellular expression – the single chain Abs bind Nef intracellularly and may be useful to better understand the role of Nef and as a gene therapy model –Chang98 						

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859 NF2B2	Nef()	Nef(20-78 BH10)			recombinant BH10 Nef	murine()
References: [Kaminchik (1990)] <ul style="list-style-type: none"> • NF2B2: Recognizes the Nef protein of the two isolates BH10 and LAV1 –Kaminchik90 • NF2B2: NIH AIDS Research and Reference Reagent Program: 456 						
860 NF3A3	Nef()	Nef(20-78 BH10)			rec BH10 Nef	murine()
References: [Kaminchik (1990)] <ul style="list-style-type: none"> • NF3A3: Recognizes the Nef protein of the two isolates BH10 and LAV1 – low affinity –Kaminchik90 						
861 AM5C6	Nef(dis)	Nef(28-43 + 78–92 BH10)	DGVGAASRDLEKHGAI + KAAVDLSHFLK		rec Nef fragment	murine()
References: [Schneider (1991)] <ul style="list-style-type: none"> • AM5C6: Epitope mapped by overlapping decapeptides – core: SRDL – also reacts with Nef(78-92) –Schneider91 						
862 AM5C6	Nef(dis)	Nef(28-43 + 78–92 BH10)	DGVGAASRDLEKHGAI + KAAVDLSHFLK		rec Nef fragment	murine()
References: [Schneider (1991)] <ul style="list-style-type: none"> • AM5C6: Epitope mapped by overlapping decapeptides – core: KAAVDL – also reacts with Nef(28-43) –Schneider91 						
863 NF8B4	Nef(dis)	Nef(Nef dis BH10)			recombinant BH10 Nef	murine()
References: [Kaminchik (1990)] <ul style="list-style-type: none"> • NF8B4: Does not recognize Nef CNBr cleavage products – recognizes intact BH10 Nef but not LAV1 Nef – Kaminchik90 						
864 AE6	Nef()	Nef(Nef C-term)				murine()
Donor: James Hoxie, Div of AIDS, NIAID, NIH References: [Greenway (1994), Tornatore (1994)] <ul style="list-style-type: none"> • AE6: NIH AIDS Research and Reference Reagent Program: 709 						
865 6.1	Nef(dis)	Nef(167-182, 191-205, 193–206 JR-CSF)				murine()
References: [Ranki (1995)] <ul style="list-style-type: none"> • 6.1: Raised against CNS primary isolates, stains astrocytes more densely than other Nef MAbs – Nef expression associated with dementia –Ranki95 • 6.1: NIAID Repository number 1123 –Ranki95 						