

### **Consensus N1 NA (cN1)**

MNPNQKIITIGSVCM TIGMANLILQIGNIISIWVSHSIQIGNQSQIETCNQSVITYENNT  
WVNQTYVNI SNTNFAAGQSVVSVKLAGNSSLCPVSGWAIYSKDNSVRI GSKGDV FVIREP  
FISCSPLECRTFFLTQ GALLNDKHSNGTIKDRSPHRTLMSCPIGEAPSPYNSRFESVAWS  
ASACHDGT SWLTIGISGPD SGAVAVLKYNGIITDTIKSWRNNILRTQESE CACVNGSCFT  
IMTDG PSDGQASYKIFKMEKGKIVKSVEMDAPNYHYEECS CYPDSSEITCVCRDNWHGSN  
RPWVSFNQNL EYQIGYICSGVFGDNPRPNDKTGSCGPVSSNGANGVKGF SFKYGNVWIG  
RTKSTSSRKG FEMIWD PNGWTGTDNKFSIKQDIVGIN EWSGYSGSFVQHP ELTGLDCIRP  
CFWVELIRGRPEENTI IWTSGSSISFCGVNSD TVGWSWPDGAELPFTIDK

### **Consensus N2 NA (cN2)**

MNPNQKIITIGSVSLTISTICFFMQIAILITTVTLHFKQYEFNSPPNNQVMLCEPTI IER  
NITEIVYLTNTTIEKEICPKPAEYRNWSK PQCGITGFAPFSKDNSIRLSAGGDIWVTREP  
YVSCDPDKCYQFALGQGTTLN NVHSNDTVRDRTPYR TLLMNELGVPFHLG TKQVCI AWSS  
SSCHDGKAWLHVCITGDDKNATASFIYNGRLVDSVVSWSKDILRTQESE CVCINGTCTVV  
MTDGSASGKADTKILFIEEGKIVHTSKLSGSAQHVEECSCYPRYPGVRCVCRDNWKGSNR  
PIVDINIKDHSIVSSYVCSGLVGDTPRKNDS SSSSHCLDPNNEEGGHGVKGWAFDDGNDV  
WMGRTISEKSRSGYETFKVVEGWSNP KSKLQINRQVIVDRGDRSGYSGIFSV EGGKSCINR  
CFYVELIRGRKEETEVLWTSNSIVVFCGTS GTYGTGSWPDGADLNLMP I

### **Consensus influenza B NA (B cNA)**

MLPSTIQTLTFLFTSGGVLLS LYSVASLSYLLYSDILLKFSRTEITAPIMPLDCANASNV  
QAVNRSATKGVTPLLPEPEW TYPRLSCPGSTFQKALLISPHRFGETK GNSAPLI IREPFI  
ACGPKECKHFAL THYAAQPGGYNGTREDRNKLRHLISVKLGKIPTVENSIFHMAAWSGS  
ACHDGKEW TYIGVDGPD SNALLKIKYGEAYTD TYHSYAKNILRTQESACNCIGGDCY LMI  
TDGPASGVSECRFLKIREGRIIKEIFPTGRVKHTEECTCGFASNKTIECACRDNSYTAKR  
PFVKLNVEDTAEIRLMCTKYLDTPRPNDGSITGPCESDGDKGSGG IKGGFVHQRMASK  
IGRWYSRTMSKTKRMGMGLYKYDGD PWDSEALALS GVMVSMEEP GWYSFGFEIKDKKC  
DVPCIGIEMVHDGGKTTW HSAATAIYCLMGSGQLLWD TVTGVNMTL

### **5×M2e (Human (x2)-Swine-Avian I/II)**

MKFLVNVALVFMV VYISYIYADPINMTTS INNNLQRVRELAVQSANSAAAPGA AVDGTSL  
LTEVETPIRNEWGSR SNDS DAAAGGAASLLTEVETPIRNEWGSR SNDS DAAAPGAASL  
LTEVETPTRSEWESR SDSSDAAAGGAASLLTEVETPTRNEWESR SDSSDAAAPGAASL  
LTEVETLTRNGWGCRCSDSSDGLKQIEDKLEEILSKLYHIENELARIKLLGELEILAI  
YSTVASSLVLLVSLG AISFWMCSNGSLQCRICI

**S1 Figure. Amino acid sequence for consensus NA and tandem repeat 5×M2e.**